

THE AMERICAN BEE JOURNAL

Devoted Exclusively to Bee Culture.

VOL. XV.

CHICAGO, ILLINOIS, JULY, 1879.

No. 7.

Contents of this Number.

Editor's Table.

Editorial Items.....	280 to 296
American Honey in England.....	290
International Exhibition.....	291
Clarification of Honey.....	291
Grape Sugar.....	291
Honey Shows in England.....	292
Wired Foundation.....	292
Attractive Packages.....	292
Fuel for Smokers.....	292
The Rev. L. L. Langstroth.....	293
The National Convention for 1879.....	294
"Excelsior!"—A Lady's Experience.....	295
Bee and Honey Shows.....	295
Wisdom of Feeding Glucose.....	296
Test of Adulteration.....	296
Granulated Honey.....	296

Our Letter Box:

W. H. Yearsley, James Baird, A. W. Steers, Robert Corbett, C. C. Miller, H. W. Hitt, N. P. Allen, A. J. Wright, S. A. Rudisill, A. E. Manum, Ben F. Johnson.....	297
J. H. Bupp, W. Bolling, Geo. Smith, Mrs. J. W. Garlick, Harry Blackburn, Ira M. Ailing.....	298
C. T. Smith, W. H. Newson, W. H. Hammond, A. D. Buckley, S. G. Gamble, L. C. Whiting, J. H. Murdock.....	299
D. P. Norton, J. V. Caldwell, W. Williamson, R. Bandy, E. Brown, R. L. Aylor, M. Mahin, G. A. Denman, S. Cornell.....	300
Wm. G. Hewes, S. B. Borden, James Heddon, J. L. Anderson.....	301
Wm. Camm, Mrs. A. S. Keyes, C. S. Schofield, R. C. Atkin, B. Sallsbury, J. W. Price.....	302

Correspondence:

The Harvest of White Honey.....	303
Bee-Keeping in Florida.....	303
My Winter-Protector Hive.....	304
Shipping Bees—Their Endurance.....	304
Swarming, Wintering, etc.....	305
The Season in Alabama.....	306
Preparation for Wintering Bees.....	306
How I Catch Swarms.....	308
The Cause of Dysentery.....	308
Primitive Home of the Italian Bee.....	309
Habits of Wild Bees.....	311

Conventions:

Lancaster County, Pa., Convention.....	312
Reports.....	312
The Price of Honey.....	312
What Causes Dysentery in Bees?.....	312
About Fertilizing Queens.....	313
Introducing Queens.....	313
Marketing Honey.....	313
Do Bees Injure Fruit?.....	314
History and Use of Bee Smokers.....	316
Albany County, N. Y. Convention.....	317
The Management of Bees.....	318
Central Ohio Convention.....	320
Northeastern Wisconsin Convention.....	321
Southeastern Iowa Convention.....	322
A Factor in Wintering.....	323
Remedy for Foul Brood.....	324

Foreign Notes:

The Theory of Dzierzon.....	325
Pollen and Wax.....	326
Exporting Honey to Spain.....	326

Editor's Table.

☞ If we wish the world to acknowledge the superiority of American honey and admire its marketable shape, let us continue to study the "ways of commerce," and after learning the needs of consumers, apply ourselves to the task of supplying all the open markets with "honey in the most desirable packages."

☞ Mr. Perrine, of "floating apiary" notoriety, called on us a few days ago. He has abandoned the floating apiary experiment, after having sustained a heavy loss in the enterprise. So many bees leave their hives and never return, that to gain money by a floating apiary is an impracticable undertaking. He now has 500 colonies, a part of them in Louisiana and the rest in Illinois. Mr. Perrine is an enthusiastic bee-keeper, and has given the floating apiary business a thorough trial.

☞ Among the resolutions passed by the Sanilac County, Mich., Bee-Keepers' Convention lately, was the following: "We advise the apiarists of Sanilac county to secure their honey crop in the 'prize box,' and to ship it in the 'prize crate.'"

☞ Fruit may be preserved with honey by putting the fruit first in the can, then pouring honey over it, and seal air-tight; when the honey is poured from the fruit it will have the flavor and appearance of jelly, making a delicious dessert.

☞ J. W. Newlove's price list of apiarian supplies. He is located at Columbus, O.



American Honey in England.

Just at the time when every American bosom is swelling with patriotism—when fire-crackers, guns and cannon proclaim the return of our “National Independence Day”—the glorious 4th of July—it is with special pride that **THE AMERICAN BEE JOURNAL** points to the fact that not only American honey in the comb, but also the style of packages in which it is put up, are receiving the approbation of the aristocracy and nobility, as well as royalty itself in Europe.

We have before announced the fact that 100 tons of American honey in the comb had been safely landed at Liverpool, and that 80 tons more had been received in London by Mr. W. M. Hoge, manager of the honey department of Messrs. Thurber & Co., of New York.

The report published in our issue for January, that some of the former lot had been confiscated on account of adulteration, grew out of the fact that the British government had requested Mr. Hoge to furnish samples for analysis. He gave them a crate of honey each produced by Capt. Hetherington, Mr. P. H. Elwood, and Mr. C. R. Isham. These samples were analyzed, and of course proved to be unadulterated.

Mr. Thurber explained on page 50 of the February number of the **AMERICAN BEE JOURNAL**, that it was “a malicious rumor started by a jealous enemy.” In our comment upon this statement we said that we were “exceedingly glad to hear that the cargo of honey in the comb had *not* been confiscated,” &c. Jealous rivals will sometimes do some very contemptible things—but this was one of the *meanest*, as it involved the interests of all the bee-keepers of the United States, more or less.

Mr. Isham informs us that at an exhibition in England, his honey was awarded the premium over 70 competitors. Concerning his honey as it stood on the sidewalk in front of Thurber & Co.’s store in New York, the editor of the *Bee-Keepers’ Magazine* says:

“We must confess that for uniformity of appearance, neatness of packages, well-

filled sections of snowy whiteness, and completeness in capping (all being worker-comb) we have never seen its equal, although we have examined nearly every large shipment which has come to this city for several years past. The crates will weigh from 30 to 35 lbs. each, are of light basswood, white and smooth; the side-slats between which the sides of the section-boxes are seen, are fastened with large, round-headed brass nails, rendering the crates quite ornamental.”

American honey in the comb being no longer “suspected,” dealers are not so “chary” about handling it. Mr. Hoge, who is an indefatigable worker and a man of indomitable energy, having made the acquaintance of the Lord Steward at Windsor Castle, presented him with a crate of the most attractive comb honey he had on hand, which was some of the crop of Mr. C. R. Isham, of Peoria, N. Y. This was expressly intended for the Royal table of Queen Victoria. The next day Mr. Hoge received the “Royal Bill of Fare,” in which “American Honey” figured as a part of the *menu*. The day following he received a letter from the Lord Steward, of which the following is a copy:

Windsor Castle, April 29, 1879.

Lt. Col. Sir Jno. Cowell, has been instructed by Her Majesty the Queen to thank Messrs. H. K. & F. B. Thurber & Co. for the honey sent, and requests a further supply of ten cases. Respectfully,

[Signed] JNO. C. COWELL,
Lt. Col. Lord Steward.

This circumstance will no doubt counteract much of the prejudice against American honey, and it is due to Mr. C. R. Isham, of Peoria, N. Y., to say that his honey and style of box has won this “bit of glory.” For exhibition purposes, the Isham box is admirably adapted, as it shows the honey so nicely—being glassed on four sides. These boxes may be used as section frames and glassed when filled, just like the “prize” box.

☛ The “Manhattan Beach” Summer Season opened on the 14th. ult. It was a grand success. P. S. Gilmore’s full band and the great cornetist, Levy, gave the finest programme ever given at any concert in America. We learn that this band has been engaged for the season. Those going to New York should go to Manhattan Beach.

International Exhibition.

The great International exhibition of bees, honey, hives and apiarian supplies generally, will be held at Prague, Bohemia, Sept. 7-11, 1879, at the time of the celebrated annual meeting of the apiarists of Germany and Austria. Americans are solicited to make a good display of apiarian utensils, bees, honey, &c. All such must be sent from this country by about August 10th, to be received in time. The Rapid Foreign Express Co., 100 Dearborn street, Chicago, will forward goods at the rate of about \$6.50 per 100 pounds in weight, or less. Mr. N. E. Dillie is the agent in this city. All such should be addressed to "Mr. R. Mayerhoeffer, Neustadt No. 747, Prague, Bohemia, Europe."

This exhibition will contain, (1) living bees, (2) bee-hives, apiarian implements and tools; (3) antiquated bee-hives, not now in use, for the historical section; (4) honey and wax, and divers preparations of them, likewise honey-cakes of all kinds, honey-wine, etc.; (5) bee-papers and bee-literature generally.

Mr. Mayerhoeffer in a recent letter says:

"For scenery and decoration, we desire Americans to provide their own—the Stars and Stripes may flutter by the side of our Imperial Double Eagle. We invite American bee-keepers to come in profuse numbers. They will be welcomed in a most friendly manner.

"We guarantee to all American exhibitors, to buy their goods if they will consent to take one-third of the payment in tickets to our prize distributions, which are sold at 10 cents each, American money.

"It will be interesting to the readers of the AMERICAN BEE JOURNAL to know that our Crown Prince is also a bee-keeper. He takes a very great interest in it, and I have lately been appointed his tutor in bee-keeping.

"For the exhibition, prizes are fixed by the Austrian government, consisting of silver and gold medals. The Society of Bee-Friends will also award medals of gold, silver and bronze, as well as diplomas."

☞ The Executive Committee of the National Association has gotten up some illustrated diplomas which may be used by Vice Presidents at honey shows in their respective States. They will be forwarded to Vice Presidents free, by mail, upon application to this office.

Dr. E. GALLUP, who figured largely in the BEE JOURNAL as a vigorous writer some years ago, is now at Scenega, California. He is delighted with the climate, and thinks of locating there.

☞ Mr. J. Pometta has already started from Europe with a shipment of Italian queens, and expects to be in Chicago about the middle of this month with them, as will be seen by his advertisement elsewhere.

CLARIFICATION OF HONEY.—Lodwig's Patent Alumina, a pasty substance containing about 10 per cent. of anhydrous alumina, is prepared by precipitating sodium aluminate with lime, dissolving the calcium aluminate obtained in hydrochloric acid, and then adding to this solution containing aluminium and calcium chlorides an equal weight of calcium aluminate. This causes all the alumina to separate in form of a gelatinous precipitate, while the calcium remains in solution as chloride. To use this for the clarification of honey, ten kilograms of the latter are mixed with twenty kilograms of water, and the mixture brought to the boiling point. Then 300 grams of the patent alumina, somewhat thinned with water, are stirred in, the whole once more brought to a boil, then set aside for one night. Finally the honey is strained and evaporated in a steam bath to the proper consistency. If the honey exhibits an acid reaction it should be treated with some magnesium carbonate previous to adding the alumina.—*Pharm. Zeitg.*, XXIII., No. 79.

GRAPE SUGAR.—From time to time the readers of the apiarian department of the *Michigan Farmer* have been warned against the use of grape sugar in any form in the apiary. Even if its use in place of sugar syrup or honey, for stimulative purposes or winter stores, were not likely to bring about disastrous results, I would very much doubt the economy of the practice. It costs less per pound than cane sugar or honey, but it contains much less sweetness. The following extract from a letter received last month from a Michigan bee-keeper, shows the way its use has resulted in most instances—or at least one way, for it has often been the cause of disease also: "Grape sugar killed my bees. I made a syrup of about two parts grape sugar and one part coffee sugar; and the bees would eat out the coffee sugar and starve with the grape sugar all hard in the cells."—*Michigan Farmer*.



Honey Shows in England.

The British Bee-Keepers' Association will hold their Annual Honey Show at South Kensington, near London, on Tuesday, July 22d, 1879. The Rev. Herbert R. Peel, Hon. Sec. of the Association, has been instructed to invite the editor of the *AMERICAN BEE JOURNAL* to act as one of the judges on that occasion. Deeming this another token of the cordial friendship existing between the National Societies of England and America, we have accepted the position, and by the time this *JOURNAL* is in the hands of its patrons we expect to be in London, attending the Kilburn Show of the Royal Agricultural Society of England, which will be held from June 30th to July 7th. As we understand it, the South Kensington Honey Show is to be the *principal* one; though at Kilburn prizes are to be awarded amounting to nearly \$120.00. Those wishing to send articles to the Kensington Show must dispatch them at once, in order to be in time. We learn with pleasure that Messrs. Thurber & Co., of New York, will exhibit 1,000 crates of America's choicest honey, from the apiaries of Capt. J. E. Hetherington, Messrs. J. Oatman & Sons, Ellwood, Adsitt, House, Isham, Harbison, Edwards, Floyd, and other leading honey producers. This display will do credit to the honey interests of our country.

WIRED FOUNDATION.—We have been trying the new comb foundation with wire inserted and we have now in our apiary some of as fine sheets of brood, all nicely capped over, as can be desired, and we are ready to pronounce it a success. The cells are built out perfectly, and the combs are nice and straight. The wires are no objection as some bee-keepers feared they might be. We think as soon as the advantages of this foundation are generally known it will be adopted in preference to any of the other styles now in use. The only drawback perhaps is in the increased cost of it as compared with the other styles. We hope manufacturers may be able ere long to produce it considerably cheaper. —*Bee-keepers' Instructor.*

Attractive Packages of Honey.

It is with pleasure that the *AMERICAN BEE JOURNAL* notes the fact that American single-comb sectional boxes are not only duly appreciated in England, but the *British Bee Journal* gives due credit to American ingenuity and enterprise in getting them up, as well as for our advanced views on marketing honey. The following extracts show that the editor, Mr. Abbott, takes a very rational view of these things:

"We owe it to American enterprise that the honey market question has been so thoroughly investigated. Their huge consignments, thrust upon us almost without warning, came like smoke into a bee-hive, alarming everybody within the sphere of its action, and setting them to work like bees to save themselves and their belongings; but now, having got over the 'scare,' we think it right to acknowledge that the American honey merchants have really helped us out of what was a sore difficulty, viz., the means of disposing of our honey. They have proved that if in salable packages it will find its way into our grocers' shops, and thence into family cupboards for every-day use."

"The large imports of honey..... have, nevertheless, called the attention of the bee-keepers of England to the fact that honey in small sections, is in most salable form, both from its beautiful appearance and the handy shape and size of the packages which the sections form when prepared for the market."

FUEL FOR SMOKERS.—In the *Bee-Keepers' Exchange*, Mr. Nellis remarks as follows concerning fuel for smokers:

"We have just learned something that 'tickles' us exceedingly, and as it is so handy and inexpensive, it must prove an acquisition. If you haven't any good punk-wood or cotton rags to burn in your smoker, why just take some heavy brown paper, roll it up like a cigar, ignite one end, and it will burn splendidly. One roll will last an hour or two. Heavy paper, such as is used around clout and finishing nails, works best, but even straw paper answers very well. The smoke is very effective, and we shall seek for nothing better. Just try it."

Well, we have tried it in the *AMERICAN BEE JOURNAL* apiary, and must say we are also "tickled." It works like a charm. The tube is so much cooler all the time than when rags or wood are used. Of course, wood is best when the apiarist desires smoke continuously.

The Rev. L. L. Langstroth.

We regret exceedingly to learn that the Rev. L. L. Langstroth is prostrated again with his old complaint, and fear that his late active thought endeavoring to catch up with the improvements made during his unconsciousness, has been, at least in part, the cause of this relapse. A letter from Mrs. A. L. Cowan, his daughter, states that "he has been steadily decreasing in vigor of mind and body for the past two months, and is not at present equal to exertion of any kind. He has another attack of his almost life-long malady."

Knowing the manner in which Mr. Langstroth was treated during the "patent" war, and how he was compelled to "litigate" till his "means" were exhausted, to defend his invention, the Wisconsin Bee-keepers' Convention, lately held at Hartford, Wis., appointed a committee, consisting of Mr. George Grimm, Rev. A. H. Hart and Mrs. F. Dunham, to gather funds in order to present to the "Father of Scientific Bee-Culture in America" a financial testimonial of the appreciation of his services to the apiarists of America.

The AMERICAN BEE JOURNAL heartily approves the action of the Wisconsin Association, and hopes that all those who have been benefitted by the labors of Mr. L. will show their appreciation, by sending to the committee any sum they may feel like donating to such a worthy object. The first installment has already been sent to Mr. Langstroth, and his daughter, Mrs. Cowan, has acknowledged it with much gratitude in behalf of her father, who is totally unable to do so. In a former letter this lady remarked as follows:

"Such a testimonial as you propose, if successfully carried out, would relieve my dear father from much of the burden which in his old age and feeble health presses very heavily upon him. We who know all of his disinterested labors for the bee-keeping public, and his meagre return in dollars and cents, feel that it would be but simple justice."

Mrs. F. A. Dunham, DePere, Wis., has been appointed treasurer of the committee, and anything sent to her for

the above object will be forwarded to Mr. Langstroth.

We wish some one would head the list with \$100. If no one will lead off with a larger amount, the AMERICAN BEE JOURNAL will commence it with \$25.00. If more convenient, subscriptions may be sent to this office in any amount desired, and we will see that they are properly applied.

Thos. G. Newman & Son, Chicago, Ill. \$25 00
C. O. Perrine, Chicago, Ill. 25 00
Chas. Dadant & Son, Hamilton, Ill. ... 25 00
Chas. F. Muth, Cincinnati, O. 25 00

Iowa City, Iowa, June 9, 1879.

DEAR MR. NEWMAN:—Accept my thanks for giving me a chance to add my word in favor of a testimonial to Mr. Langstroth. In honoring him, our bee-keepers will honor themselves as well. I hope a good sum may be obtained, and shall be glad to add my mite to the gifts of others.

Most truly yours, O. CLUTE.

Since the above was in type, the following graceful reply has been received in acknowledgment of a remittance from the AMERICAN BEE JOURNAL:

Oxford, Ohio, June 20th, 1879.

THOS. G. NEWMAN & SON: *Gentlemen*: It is with mingled feelings of pleasure and regret that I attempt to reply to your letter of the 17th inst. addressed to my father, and received by him yesterday. While deeply grateful to you and to all kind friends who have so generously responded to the appeal on his behalf of the Wisconsin Bee-keepers' Convention, I greatly regret that he is at present unable with his own hand to express to you his sincere and hearty thanks for your kindness. When he again recovers he will express to you all his gratitude in far more eloquent words than I have at my command, and in the meantime I trust you will rest assured that he fully appreciates your kindness. Respectfully yours,

ANNA L. COWAN.

In a memorial to Congress, relative to the coming census of the United States, the superintendent of the census of 1860, Mr. Kennedy, gives the following statistics as an illustration of the stupendous results from a single hive of bees, transported to the Pacific coast less than 30 years ago. From the single county of San Diego, California, in 1876, there were shipped 1,250,000 lbs. In 1877 there were in that county 23,000 colonies of bees, and in one day, Sept. 6th, 1877, there were shipped from that port 78 barrels, 1,053 cases and 18 tons; and from and including July 17th to Nov. 10th, 1879, less than 4 months, that one county exported over 1,000 barrels and 14,544 cases, nearly 20 tons.



The National Convention for 1879.

The annual convention of the North American Bee-Keepers' Society will be held in the Globe Theater, Des Plaines St., Chicago, Ill., commencing at 10 a. m. on Tuesday, Oct. 21st, 1879. Arrangements have been made with the Washington Hotel and Gault House (near to the Theater) for board and lodging of those attending the convention, at \$1.50 per day.

Cheap round-trip tickets can be procured on almost all the railroads centering in Chicago.

The Executive Committee have made arrangements with the Great Western Railway of Canada to carry those coming to the convention, on a return ticket, at one and one-third fare; the Chicago, Pekin & South-eastern Railway at one and one-fifth fare; the Chicago & Lake Huron Railway at 2c. per mile each way; the Chicago & Eastern Illinois Railway, between Chicago and Evansville, Chicago and Lafayette, via Hoopston and Chicago & Indianapolis, at one and one-fifth fare.

Those intending to avail themselves of these reduced rates must procure, from the office of the BEE JOURNAL, in Chicago, a printed certificate that they are entitled to such reduced fare, to present to the ticket-office when purchasing their tickets. If enough are coming over the Pennsylvania Central Railway, the Pittsburgh, Fort Wayne & Chicago, and the Cleveland & Pittsburgh Railways to warrant it, we can procure tickets specially printed, for 2c. per mile each way. It will be necessary for those coming over these roads to send their names to the Chairman of the Executive Committee, who will then forward the necessary orders on the local ticket-offices.

All are invited. Present indications point to a very large and enthusiastic meeting.

THOMAS G. NEWMAN,

Chairman Executive Committee.

E. PARMLY, Sec.

The Executive Committee, appointed to make all arrangements for the coming Convention in Chicago, have so far progressed in their labors, as to be able to report the following topics and persons who will lead off in the discussion of them:

"Wintering bees, physiologically considered."—Prof. A. J. Cook, Lansing, Mich.

"Patents, as applied to Implements for the Apiary."—A. E. Wenzel, Callicoon, N. Y.

"How shall the mass of bee-keepers secure the largest income?"—Dr. C. C. Miller, Marengo, Ill.

"Wintering bees on summer stands."—J. E. Moore, Byron, N. Y.

"Monstrosities among bees."—S. C. Dodge, Chattanooga, Tenn.

"Disastrous wintering and spring dwindling of bees: the cause and prevention."—Rev. A. H. Hart, Appleton, Wis.

"Disentery as a bee disease."—E. Rood, Wayne, Mich.

"Fertilization in Confinement."—Prof. J. Hasbrouck, Flatbush, Long Island, N. Y.

"Qualities in Bees."—James Heddon, Dowagiac, Mich.

"Foul Brood."—L. C. Whiting, East Saginaw, Mich.

"My Method of Queen-Rearing."—Wm. J. Andrews, Columbia, Tenn.

"A National Apiary and Queen-Rearing Establishment."—Wm. Williamson, Lexington, Ky.

"How to Prevent Swarming."—D. D. Palmer, New Boston, Ill.

"Should we try to Prevail on People to Keep Bees?"—W. M. Kellogg, Oquawka, Ill.

"Introducing Virgin Queens."—Rev. Dr. M. Mahin, Logansport, Ind.

"Can Bee-Culture be made Profitable? If so, how?"—J. H. Nellis, Canajoharie, N. Y.

"Something about Bees."—H. A. Burch, South Haven, Mich.

"Will the Rearing of Dollar Queens be Profitable to the Buyer and Seller?"—D. A. Pike, Smithsburg, Md.

"Comb Foundation."—J. W. Porter, Charlottesville, Va.

The Committee being desirous of making the meeting a thoroughly practical one, would suggest to those who lead off in the discussion of the themes enumerated, that *short and concise* statements are far more valuable to the apiarists of America than long dissertations. They are intended solely to *introduce* the discussions that will follow. It is not expected that they will exhaust the subject, but should present such facts and figures as will lay the theme fully open before the Convention, and call for a thorough and rigid examination.

The coming Convention promises to eclipse all its predecessors, not only in the number of its participants, but also in the interesting programme which it presents. Indications now point to the largest delegations from all parts of the United States and Canada that have ever attended any similar meeting on the American Continent. The invitation is general to all interested in the subject of bee-culture, to attend and take part in the deliberations. The most momentous themes that now engross the attention of apiarists will be fully discussed. As further arrangements are made they will be published by

THE EXECUTIVE COMMITTEE.

"Excelsior"—A Lady's Experience.

For good, sound, practical common sense, applied to the management of the apiary, we commend the following from Mrs. L. Harrison, of Peoria, Ill. In the *Prairie Farmer* she says: "I have 150 hives in my apiary; standard Langstroth, manufactured from good lumber, well seasoned and painted, and I think I can to-day afford to give \$1 each for every moth worm found in them." That is just the right kind of talk. Moth worms are seldom found except in old and rotten hives, full of crevices, or in weak or queenless colonies, that have been neglected, or in some complicated hive. The many who are forever talking of moths and "moth-trap hives" should learn the cause and avoid the nuisance. Mrs. Harrison justly remarks:

And right here let me say, that the man who will keep his bees in old, dirty rotten hives, deserves not only to have moth worms in them, but in his coffin. Like Patrick Henry, "I have but one lamp by which my feet are guided, and that is the lamp of experience." In years past I have frequently bought combs in the spring from parties who had lost their bees during the winter, many with moth worms in them, placed them directly in the hives, and in a few days the Italians would have them nicely cleaned out. This was done so often that 5 years ago I made the following assertion, and with 5 years' additional experience I see no reason to modify it, that "a tea-cupful of Italian bees in a hive will keep the moths out of the combs," and now as the "proof of the pudding is in eating it," ladies and gentlemen, doubting Thomaes, one and all, you are invited to meet me on my battle ground and inspect.

That is just the right kind of practical talk. Now let the "moth-trap" men meet this woman, and to use a vulgar but pertinent phrase, "either put up or shut up." A good colony of Italians in a good, plain, simple and sound hive, are the only moth traps worth a cent.

After satisfying yourself that you are right, go to work with courage, and let no one tempt you from the course you have deemed right and just. He who falters in a just cause is unworthy of the confidence of any one.

BEE AND HONEY SHOWS.—Some inquire what to recommend to the managers of Agricultural Societies as prizes for exhibits of bees and honey. This is important and timely. At the show in Dumfries, England, prizes were offered for the following articles: Clover and flower honey, hives and wax, best bee furniture, bee gear and apiculturist's necessities, best bee feeder; cheapest, neatest and best supers; best honey extractor, new inventions calculated to advance apiculture; best chemical or other test for detecting spurious from genuine honey, and for the best liquor, wine, mead or beer, made from honey, with recipe attached. The following is about the usual enumeration at American Fairs, where the prizes are given for exhibits of bees and honey:

	1st Prem.	2d.
1. Display of honey (comb and extracted), and wax.....	\$5 00	\$3 00
2. Package honey in comb, 1 lb. or more.....	3 00	
3. Five lbs honey, extracted, (3 kinds)....	3 00	
4. Machine for extracting honey.....	dip.	5 00
5. Bee hive, for all purposes.....	dip.	7 00
6. Italian queen, with her bees.....		
7. Display of bee-keeper's tools and implements, and fixtures, (not including hives or honey extractor).....		5 00
8. Exhibition of a swarm of bees in hive, including their handling and method of subjugation, to be practically illustrated.....		10 00

The busy season is at hand now in every apiary. Though long delayed, it will be welcome. The busy hum of the industrious workers make merry music. The 70 colonies in the BEE JOURNAL apiary are gathering honey freely and doing exceedingly well, though situated in a large city. Many queens have been lost by the late cold and unfavorable weather, and everything is behind in queen-raising and building up of colonies—still we hope for better things during the next month.

No one should expect to be successful with bees, if unwilling to attend to them. They will suffer from neglect just as soon as any other insect, animal or growing crops of grain. If there is not sufficient bloom near them, there will be no honey surplus for their owner; in such case, pasturage may be provided by cultivating honey-producing shrubs, trees and plants.



☞ The Cincinnati *Commercial*, in a recent article concerning the "Honey Trade," remarks :

"Ohio is the home of the person who, *par excellence*, knows more about bees than anybody else in the United States. It is the Rev. L. L. Langstroth, of Oxford, Ohio. He it was who invented the only bee-hive which is worth a straw, and who has shared the fate of most inventors that have really been benefactors to their race, in that he is a poor man to-day."

The *Commercial* in the latter clause states a fact that should burn the ears of a few, who so persistently labored to impoverish him who so generously benefitted the past as well as the present and future generations of bee-keepers, by the invention of the movable frame hive; for

"Ever shall truth come uppermost,
And ever shall justice be done."

Well let us see now who will feel deeply enough to in a measure repair the injury done by designing and selfish men of the last decade.

"Some men die not; the grave's abyss
Is never deep enough to hide
Their grandest acts, whose light shines on
Like beacons on a mountain side.

"The deep pulsations of their lives
Throb on, and on, through ages vast,
As ceaseless as a river's flow,
And Time and Death's eclipse outlast."

WISDOM OF FEEDING GLUCOSE.—Prof. Cook, in the *Country Gentleman*, says: "Mr. Root has persistently declared that glucose and grape sugar were separate and distinct. Of course, this is utterly incorrect, as any chemistry, physiology or dictionary will assert. It may be that the so-called glucose of commerce may contain a variable amount of dextrine or other substance. If so, the name glucose is a misnomer. Practically it makes no difference. The liquid called glucose, and the solid grape sugar are alike in being convenient adulterants for honey. Either may be used for that purpose. The liquid is pleasant, the solid when dissolved is bitter, so if either is to be used, the liquid is preferable. If either is used, honesty requires that the label shows the exact composition. Feeding glucose for winter stores is not to be recommended. The safety of this practice is not yet assured, and the danger from such practice to our market is apparent, while the financial advantage which extracted honey at the present low price is too slight to make it greatly desirable, even though it were safe, and free from all danger to the markets."

WELL, WHAT NEXT?—The latest exploit of the San Francisco reporter is the alleged exposure of a process for manufacturing hen's eggs from deleterious materials. According to the narrative, the albumen is imitated by a mixture of sulphur, carbon and fatty matter obtained from the slaughter houses and rendered sticky with mucilage. The yolk is made of blood, phosphate of lime, magnesia, muriate of ammonia, oleic and margaric acids, and colored with chrome yellow. The shells are shaped by a blow-pipe from a mass of gypsum, plaster of Paris, carbonate of lime and oxide of iron. After the shells are blown the albumen is forced in through a hole in the small end and sticks to the sides; then the yolk is added, and after being covered with more of the albumen mixture the hole is sealed with cement; the complete egg is rubbed pretty smooth and laid aside for packing. It is asserted that many barrels of these eggs have been shipped eastward for consumption.

The ingenuity of this conception is worthy of a much better cause; but we cannot believe that such a thing was ever accomplished. If it *did* occur the manufacturer should be punished very severely. Oh, how much we do need a general and stringent law against adulteration, that would reach all such nefarious rascals as the inventor of the alleged "eggs," and "wooden nutmegs"!

TEST OF ADULTERATION.—If you have cause to suspect adulteration in honey with glucose proceed as follows: Take a quantity of honey and add one part water, dissolving the honey thoroughly by stirring. Then add alcohol of 80° until a turbidness is formed which does not disappear on shaking. If glucose syrup is present in the honey soon a heavy deposit of a gummy, milky mass will form, while with pure honey there will only be a very slight milky appearance observed.

GRANULATED HONEY.—The Jews of Moldavia and the Ukraine prepare from honey a sort of sugar, which is solid and white as snow, which they send to the distilleries at Dantzic. They expose the honey to frost for three weeks, where neither sun nor snow can reach it, and in a vessel that is a bad conductor of caloric, by which process it becomes clear and hard like sugar.

☞ In Cyprus the manner in which bees are kept is curious, and deserves notice. Walls formed entirely of earthen cylinders, each about 3 feet long, are placed one above the other horizontally, and closed at the extremities with mortar. This wall is then covered with a shed, and upwards of 100 colonies are maintained within a very small compass.

Our Letter Box.

Street Road, Pa., May 29, 1879.

Bees have done very well this spring here, though we had a long cold winter. Many bees died in this neighborhood. I lost 5; have 25 left, all in good condition. I am well pleased with the BEE JOURNAL.
W. H. YEARSLEY.

Canton, N. Y., May 17, 1879.

My bees came out of the cellar in fine condition, and now are from 2 to 3 weeks earlier than usual. The weather has been warm and fine since they were taken from the cellar, on April 22d. They brought in pollen the same day that they were put out, and the blossoms have continued, one after another, till now. The hives are full of bees and brood, and if nothing happens, we may expect early swarms.

JAMES BAIRD.

Oregon City, Oregon, May 17, 1879.

E. P. Massey, in May number of the AMERICAN BEE JOURNAL, complains of bitter honey, and thinks the bitter taste comes from horehound. I have lots of horehound, and my honey crop last year, from that source alone, was considerable and equal to white clover; I shall sow more this fall. It is in continuous bloom for 3 months. Clover needs no culture to speak of, and buckwheat very little (see May No. AMERICAN BEE JOURNAL), and I would advise all who keep bees to sow all three—buckwheat, clover and horehound. Besides the honey, clover is an excellent pasturage for stock, and, I dare say, bees will prefer to work for the honey they produce, rather than any bitter honey they may have been gathering. A. W. STEERS.

Malden, Ill., May 9, 1879.

In the fall of 1877 I had 20 colonies in fair condition. I numbered and weighed them, putting 7 of the lightest into the cellar, 7 more into a box-house packed in hay, and left 6 on their summer stands. The difference in the spring of 1878 was as follows: Those in the cellar consumed 5 lbs. each, those in the box-house 7 lbs. each, and those on the summer stands 12 lbs. each. I kept them closed till March 12th. They built up to strong colonies in the fall. The spring and summer being unfavorable, they did not get as much as they consumed, but in the fall they gave some surplus. Last year I put my 20 colonies on their summer stands on March 6th. Two became queenless, but I strengthened them up, and they became good colonies in the fall. I ran one for queen-raising, and from the remainder I got 900 lbs. of comb honey and 600 lbs. of extracted, besides 29 colonies of increase. The weather was cold and backward, and continued so till June 10th. After that, for a month, the honey season was excellent. Then there was a month of drouth. From fall flowers they got a nice lot of box honey. I wintered 46 colonies, and will give the results in this year's report.

ROBERT CORBETT.

Marengo, Ill., May 29, 1879.

My 134 colonies are working lively on white clover, and the present prospect is for a good harvest.
C. C. MILLER.

Merritt, Ill., May 29, 1879.

I have 40 colonies of bees, all doing well. Robbing may be stopped by putting a little cow manure in front of the hive, near the entrance.
H. W. HITT.

Smith's Grove, Ky., May 26, 1879.

My bees are gathering honey rapidly, and the outlook for a rich honey harvest is very good. We hope to build up our apiaries to their former strength, and harvest a good crop of honey.
N. P. ALLEN.

Carlton, Mich., May 19, 1879.

I think that 90 per cent. of the bees in this vicinity are dead, caused by having too much honey. They filled up so full last fall that the queen had no room to lay, so that they went into winter-quarters with only old bees. As this spring was a month later than usual, the old bees died before young brood was raised. An extractor would have saved all the trouble, in my opinion.
A. J. WRIGHT, M. D.

Arkadelphia, Ark., May 29, 1879.

We have a good country here for bees; the forest is full of a large brown bee. We do not have the black bees; I do not know the name of them. I have 18 colonies; they are good workers, and very quiet. They are now getting honey very plentifully. Twelve months ago I sent to one N. C. Mitchell, of Sandusky City, O., for two queens. He has my money, but never sent me any queens. I am satisfied he is a humbug, but it cost me \$9 to find it out. I am much pleased with the AMERICAN BEE JOURNAL.
S. A. RUDISILL.

Bristol, Vt., May 10, 1879.

We have had a very backward spring in Vermont. There is great complaint of spring dwindling here, but for the past few days the weather has been very favorable, and bees are now doing remarkably well. Fruit blossoms are just making their appearance. I find that talking while looking over bees aggravates them very much, and they are more apt to sting than when there is no talking going on. Is it the noise, or the breath, or the motion of the lips that disturbs them?
A. E. MANUM.

[Human breath is often quite offensive to bees, especially when it comes from a diseased physical system.—ED.]

Glasgow, Mo., May 19, 1879.

I have 48 colonies in good condition, 5 with Italian queens and 43 blacks; they have commenced building combs in the honey boxes, but I have no swarms yet. Last year I had a large swarm on May 5, and had 7 more in May. Nearly all the bees in Chariton and Howard counties are lost; a great many bees left their hives; two came to my place; one very large swarm came to a neighbor and went in with a weak colony, and with a little feeding got through all right.
BEN. F. JOHNSON.



Glen Rock, Pa., May 20, 1879.

My bees wintered with small loss, but were reduced in numbers. They gathered largely from fruit bloom, and increased in numbers very fast. They are now nearly all strong and ready for the real harvest, soon to begin. I am getting up a club for the JOURNAL. I work for it, because it works for me.

J. H. BUPP.

Dunkirk, N. Y., May 23, 1870.

Am troubled with little black ants on top the honey-board; how can I keep them off? Had my first swarm the 20th of this month. Orchards are in full bloom. W. BOLLING.

[Many preventives for ants are recorded in the back numbers of the BEE JOURNAL. A practical plan is to entirely break up the nest, by brushing and smoking them when found. They do the bees and honey no harm, as they are glued out of the hive, and only seek such quarters for the purpose of borrowing a little warmth.—ED.]

Amadore, Mich., May 23, 1879.

The loss by wintering has been great. Some of our hitherto successful bee-keepers have lost heavily; some have lost all, others over 90 per cent. We lay it to the excreta of the woolly aphid, which was very plenty on the beech trees during the latter part of last summer. I have been engaged, more or less, in bee-keeping for the last 35 years, but never had any trouble in wintering until about the year 1867; since which time about every other year I have lost from 10 up to 75 per cent. How to winter successfully, is the question of questions with bee-keepers in this climate.

GEO. SMITH.

Lansing, Mich., May 21, 1879.

It affords me pleasure to read the BEE JOURNAL. I am confident that it is the best bee literature which can be afforded to promote the science of apiculture, and I think it is unexcelled, for it looks to the best interests and welfare of the beginners. I speak from self-experience. In perusing it, I find the names of but few ladies, who have identified themselves in this work. It would be pleasing to see the record of others. My bees are doing nicely. I have had no swarms issue, up to date. I have two colonies less than when I last wrote you. One was robbed, and the second would have been, had I not united it with another. I tried various methods to prevent it (mainly by transferring to the cellar and left to remain a few days), but all efforts failed. The above method proved a success.

MRS. J. W. GARLICK.

Webberville, Mich., May 5, 1879.

I see by the JOURNAL, that many condemn wintering in cellar, hence I will give you my experience during the past severe winter. On the last of November, I put 40 colonies in the cellar, and about Dec. 4th put in 24 more, making 64 colonies. I extracted often from the brood chambers, during the summer, so that the queen had room for brood. On Jan. 1st I bought 44 colonies

in the cottage hive; they were full of honey, but only a fair amount of bees. I put them in the cellar on the 1st and 2d of January. This made 107 colonies. They remained there until March 8th; I then set them all out for a fly, and you may rest assured they did fly. I put 104 back into the cellar the following morning; the other 3 had died out. Nearly all had brood in all stages. I put all on the same stands during the first week in April, and during the following two weeks I lost 24 out of the 44 that were full of honey, that I bought. The next day I doubled up 8 into 3, and during the third week in April two swarmed out and went into other hives, leaving brood in all stages. I put their brood in the hives with them, and last week I doubled up 10 more into 5, to get queens for 5 that had killed theirs, or had become queenless from some other cause. Now, you will readily see that I have lost 39 colonies, and 36 of them were the ones that were full of honey, that I bought Jan. 1st. Had those 36 been treated similarly to the first 64, I think they would all have been alive to-day. I now have 50 very good and 18 fair colonies. Ninety per cent. of the bees that were wintered out of doors are dead. If bees are properly prepared and put into a good cellar, we would not lose 1 per cent of them.

HARRY BLACKBURN.

May 28, 1879.

Does the first swarm of bees ever go back in the hive again of their own accord?

IRA M. ALLING.

[First swarms frequently return to the hive, both before and after alighting. Inability of the queen is the usual cause.—ED.]

O'Fallon, Ill., May 19, 1879.

I think it my duty to my fellow beekeepers to make the following statement of my dealing with N. C. Mitchell, of Indianapolis: In his price-list for 1878, he says, "We will furnish pure Italian queens bred from imported mothers, raised and fertilized on Kelley's Island, 12 miles out from Sandusky City, O. Our queens will be as pure as if raised in Italy." I had an old claim against him (a statement of which may be found in *Gleanings*, Vol. 5, No. 5, page 126) for which he promised, early last spring, to send me a full colony of his pure Kelley Island bees, valued at \$20, as soon as he could raise them. I waited until the latter end of July, when I wrote to him that I was getting impatient for my Kelley Island bees, though I had learned before this that he had not a bee on that island. He replied that he could not ship full colonies nor his large frame nuclei in hot weather, as the rough handling of the express companies broke down the combs and killed the bees, and asked how many queens I would take in place of the colony. I replied that he could send just as many as he thought would make the thing fair and square, but what he did send I wanted of the very brightest and best, or I did not want any. On the 6th of September I received 4 queens, (2 of them being as dark on the back as pure black queens, with a sort of yellow abdomen; one of the others a dark leather

color, with a black tip to her abdomen, and the other a tolerably bright and fair queen.) I introduced them all safely. The 2 dark ones never raised a bee with more than one yellow band; 1 of them perished during the long freeze, with her whole colony, and the other died about the 1st of March, leaving her colony queenless. I think she was a very old queen; she laid very sparingly last fall, and when she died there was very little brood in the hive. The light queen raises all kinds of bees, from clear black to 3 banded—mostly 1 or 2 bands. The other raises well marked bees, but of a very dark leather color, and they are the worst robbers I ever had. If there is any mischief going on, they are at the head of it. These are the facts, all can form their own conclusions as to his business qualities as well as his stock. C. T. SMITH.

Wittsburg, Ark., May 31, 1879.

I commenced with 24 colonies of bees in Langstroth hives, last March; had one destroyed by a fertile worker. I have extracted up to this date 600 lbs., and have taken 152 lbs. of comb honey. I have had only 6 swarms. This is my second year's experience with bees. We have no white clover here. W. H. NEWSOM.

Spring Lake, Mich., May 19, 1879.

I have lately visited several counties in western Michigan, and am of the opinion that more than 50 per cent. of the bees are dead. Many have lost all by dysentery, which I attribute to the following cause, viz: That the spring frost killed the basswood bloom, and much honey was made from the blossom of the corn, which is in its nature too relaxing. In proof of my conclusion, I will state that in localities near Lake Michigan, where corn is but little grown, the disease has not prevailed; and an individual located in a neighborhood of corn fields, and who wintered successfully, remarked that he did not, last season, follow the usual practice of putting on honey boxes until the bees had made sufficient honey below on white clover to winter on. W. H. HAMMOND.

Weston, Texas.

One of my neighbors last year had a swarm of bees come to his yard; they took possession of an empty hive, and were working finely before he knew it. This year another swarm came and went into a hive where a colony had died out; it was in his orchard over 100 yards from his house. They are doing well. I have heard of such before but never saw it till now. In the JOURNAL for August last I saw that a novice took a queen from a colony, but they did not raise another. Such is common in this country. I had 4 queenless colonies and had queen cells ready for them, but neglected to insert them; when I attempted to do so, the first queen was out and had destroyed the other cells. I then gave two of the queenless colonies Italian brood, but they failed to raise queens till I had given them brood 3 times. It seems to me that an improvement could be made in the smoker, by making the tin tube double, one inside of the other, leaving an air-space

between the two to keep the outer one cool, which could then be kept bright and look like a new one. Wire cloth in the end of the tube to keep the fire, etc., from blowing out, would be an improvement. This may give an idea to some one.

A. D. BUCKLEY.

Scranton, Iowa, May 29, 1879.

I have a colony of bees that threw off a very large swarm five days since, but they would not cluster, went back into the old hive, and came out again to-day. They went back into the same hive again without clustering. Now, I would like to know what is the matter. It is a strong swarm, and apparently in splendid condition.

S. G. GAMBLE.

[Evidently the queen remained in the hive, or at least was not with the swarm.—Ed.]

East Saginaw, Mich., June 2, 1879.

On page 250, of the JOURNAL for June, W. C. Nutt asks how short a distance will it do to move bees, after they have marked their location. You answered him correctly, if he wished to move them but a few feet, but if it should be too far for that, he will find in Vol. 4, page 235, a plan which I have tried this spring, and find that it works well, and not a bee has returned to the old stand. It is not necessary to catch the queen, but shake all the bees off into a box and let them cluster there, like a swarm, for half an hour; run them back into the hive like a swarm, and move them any distance you wish, and they will stay where you put them. L. C. WHITTING.

Dexter, Mich., June 3, 1879.

I have been so busy during the winter and spring so far, that I gave no attention to my bees. I lost 3 colonies to May 1st, by starvation. In the month of February I should have given them some frames of honey which I had, but I did not; so they died out. Spring has opened up finely. Bees are storing well; breeding fast. They have had full benefit of the fruit and maple bloom, making them strong in numbers. A great many have lost heavily here, during the past winter, with hives full of honey. It pays to "pack" bees, even though it is extra work and expense. A thing well done, is twice done. J. H. MURDOCK.

Council Grove, Kan., May 30, 1879.

A Mr. Hansett, of this county, saw some bees at work on buckwheat, in a vicinity remote from any bee-keeper, and concluded there was a bee-tree near by. He afterwards returned to the locality and put out bait. The bees came to it, and he traced them to Council Grove, a distance of 8 miles. A few days ago I transferred a colony of blacks from one hive to another. I shook and thumped the old hive, until there were no bees in it, and removed it some distance away; I then united a weak colony with it, they having a worthless queen which I killed. The job was finished about noon. About 2 o'clock, I noticed the colony was unsettled; I went to the old hive, from which the first colony had been transferred,



raised the cover, and there was the queen of the transferred colony; "alone in her glory." I put her back on the alighting board among the bees, but she refused to enter. I shook her in at the top, and have not seen her since. Was not that a strange freak?

D. P. NORTON.

[It is a fact that bees travel much longer distances for forage than they were formerly supposed to do. This is an interesting item, bearing on the question of "overstocking." Perhaps you forced out all the bees but the queen. Many cases are on record, however, of queens leaving the hive after having been removed, and when they have found their old home, of re-entering it.—Ed.]

Cambridge, Ill., May 31, 1879.

Bees in this section did not winter well, some having lost from $\frac{1}{2}$ to $\frac{3}{4}$ of their colonies. They were mostly wintered on summer stands, without protection. My 48 colonies were wintered in a cave, dug in the east side of a hill, and they came through in good condition, except 4 that got damp by being on the bottom. I shall dig another this fall, and put some in both; will give my plan for making a cave before winter, as I am confident I can make a success of it.

J. V. CALDWELL.

Lexington, Ky., June 2, 1879.

Your esteemed favor, appointing me Mr. R. M. Argo's successor, as Vice President of Kentucky of the National Association, is duly appreciated. Knowing Mr. Argo's eminent fitness for the position, causes me to feel somewhat reluctant in accepting such a prominent position. However, I will strive to do everything in my power to advance the bee-keeping interests of Kentucky and bee-culture in general.

W. WILLIAMSON.

Galesburg, Ill., May 30, 1879.

I have kept bees for 30 years. The moth used to bother some, but for the past six years I have used the following preventive: Put a pint or more of sorghum molasses, with a little water added, or any kind of sweets, in a jar or jug, and put it close to the entrance, with a "float" of sticks $\frac{1}{2}$ in. thick. The liquid should be stirred every few days. The vessels should be cleaned, say once a month, and refilled. I would like for others to try this plan, if troubled with moths.

R. BANDY.

Columbus, Wis., June 4, 1879.

About $\frac{1}{2}$ of the bees in this section have died since last October. Dysentery is the general cause. I put 6 colonies in the cellar last November (all Italians), and all came out strong. Our first swarm issued on June 2d, and the next day another issued from the same hive. I am using comb foundation with good success, one-half depth of frame. I use 2 parts of resin and 1 of beeswax to fasten the foundation to the frames. The AMERICAN BEE JOURNAL is a great help to us, united with your work on "Bee Culture" and Langstroth.

E. BROWN.

Waterloo, Ky., June 8, 1879.

Bees are doing very badly in this neighborhood this season. We had no rain for about 7 weeks, and the bloom dried up, yielding little honey, not enough for brood raising. I have taken but very little honey yet, and there is a poor prospect for taking any more. White clover is in bloom, but it came out in that dry weather, and seems to yield but little honey. So far I have had only 1 swarm, and there are no prospects for more very soon.

R. L. AYLOR.

June 2, 1879.

Please answer in the BEE JOURNAL. Is there any patent on the adjusting board used in Mitchell's bee-hive? He threatens to prosecute persons using it.

**

[If you mean by adjusting board, a simple "division board," we say, No. Division boards were in use for years before Mr. Mitchell's adjustable hive was gotten up.—Ed.]

Logansport, Ind., June 7, 1879.

Having been appointed Vice President of the National Bee-Keepers' Association for the State of Indiana, I desire all the information I can obtain on all matters pertaining to the interests of bee-culture in the State. All bee-keepers are requested to communicate with me freely. I would be glad to be furnished with the names of persons who will undertake to give me information from their several sections.

M. MAHIN.

Pittsford, Mich., June 6, 1879.

Are queens reared from a tested mother as good as those from an imported queen?

G. A. DENMAN.

[That depends entirely upon what the "tested mother" was. We have queens in the BEE JOURNAL apiary that we would not exchange for 10 unselected imported queens! If you have a good, pure, prolific mother, her daughter may be far more valuable than an unselected imported queen. The simple fact of a queen being imported proves nothing in regard to her value. She must be judged by her traits of character and the quality of her progeny.—Ed.]

Lindsay, Ont., March 22, 1879.

I have a device for holding together the closed end frames of the new Quinby hive, as well as the cases of sections for the top. Simply place a small-sized screw in each end of the panels or side-boards, and put the string, drawn a little tight, over the heads of the screws. This is more readily done, and holds together better than by tying a cord around the whole, as illustrated by L. C. Root, in the *American Agriculturist* for November, 1875; besides tying knots on cords, while side-boards are reversely pulling and 20,000 bees flying around, is not always a pleasant part of the manipulation. If friend Bingham will try them, he will possibly find them more desirable than his wires, as illustrated in Prof. Cook's Manual.

S. CORNEIL.

Pointe Coupee, La., May 15, 1879.

On examining my hives a few days ago, I discovered foul brood in one of them. I had some time before transferred them into a new hive, leaving the old hive near by, and I now see the bees have removed most of the propolis from it. If bees from hives not having the disease have taken the propolis from the old hive, is it likely to produce foul brood among them? Does foul brood ever leave a hive of its own accord? I discovered three cells of it in a hive early in March. Their queen being worthless, I killed her, and before they succeeded in getting another all the brood in the hive had hatched. I picked out the few cells that were foul, and it was nearly two weeks after this before they had a laying queen. I have since examined them closely, and cannot find the least sign of foul brood. A neighbor reports hives that had it last year being perfectly free from it this; he did nothing towards curing them. I intend to cure mine as soon as the bees are gathering honey plentifully. If I don't succeed I will burn them.

WM. G. HEWES.

[In a case of virulent type of foul brood, it would be imprudent to allow the bees of a healthy colony to come in contact with any material in or about the hive that contained the diseased colony. It is recorded of our old "bee-masters" that they even changed their clothing before handling a healthy colony, after manipulating one affected with this dreadful disease. Yours was perhaps a case of what is denominated "dry foul brood." Such is sometimes reported to have been cured, or having died out of itself.—ED.]

Addison, N. Y., May 17, 1879.

In the spring of 1878 I commenced with 9 colonies. I got but little box honey, but they increased to 28, which was very satisfactory. I put 23 into winter quarters; 3 or 4 I put in-doors, the rest I left on their summer stands, packed with straw on the windward side. They came through the cold weather all right until about April 1st, and I then put them in their places. I fear it was too soon, for they have kept dropping off, till now I have only 3 left out of 23. What the cause is I hardly know. Two or three of them had no honey; the rest had from 5 to 20 lbs., and one of them had 40 lbs. of very nice honey. Most of them had but little pollen; whether this had anything to do with their dying I do not know. Some say it is the hive, but this cannot be, for I had the American, Cottage, and old-fashion box hive, also a hive of my own make, and they died in all alike. Can you tell what was the trouble?

S. B. BORDEN.

[It is a fact that rapid increase is too often followed by a more rapid decrease! Colonies that are troubled with "spring dwindling" can hardly be said to have "wintered all right." Your colonies were probably too weak to withstand the cold after they were placed on their summer stands.—ED.]

Dowagiac, Mich., June 10, 1879.

Bees are doing well here now. I see no reason why we should not have a good harvest.

JAMES HEDDON.

Lawrence, Ill., June 6, 1879.

About $\frac{1}{2}$ of the bees in this locality have been lost during the past winter and spring. The principal cause is wintering on summer stands. I put 133 colonies in a cellar last November, and on April 1st I took out 130; have lost 4 since—queenless. I have also sold several. I have not a moldy comb in the lot; my cellar is 16 ft. square outside the walls, and in it I can comfortably winter 150 colonies. I have a ventilator which is neither more nor less than a 2-in. water conductor, extending from within 6 in. of the bottom of the cellar up through the floor into my stovepipe. The cellar does not freeze; the air is good, and bees are quiet all winter. It has been cold and backward this spring; my bees killed off the drones two weeks ago, but they have a plenty flying now. Some of them are storing honey in surplus boxes. White clover is very abundant. I prefer a good cellar in which to winter bees, to all the bee houses, chaff cushions, or any other device I ever heard of.

J. L. ANDERSON.

Winchester, Ill., May 9, 1879.

In June number you made me say, when speaking of a neighbor's bees that smothered or froze in a double-walled hive, that they had "a sack and 2 empty section boxes over them," whereas I wrote, or intended to write, a rack and 21 empty section boxes over them. The inference I desired to be drawn was that we should shut off all upward ventilation, and make our hive thick enough to keep out the frost to any extent, and we can, here at least, winter best upon the summer stand. Weather too dry, and bees slow about building queen cells. I am getting considerable honey from white clover now, but out of 23 colonies at my home, only one has swarmed naturally. From that one I obtained 6 good queen cells, which I gave to 6 strong colonies, after making 6 new colonies with the queens and most of the bees, as I find this one of the best ways to increase artificially if one has no empty combs and no queens ready for use in the old hive. Each of the old colonies adopted and fastened the cell given, and each built quite a number more, so many, that from the 6 old colonies I could have obtained cells enough to have divided the rest of my colonies; but they were such puny-looking cells that I would not use them. I am troubled with the bees building combs upwards in frames for extracting in the upper story, and crooked combs generally. Last year, as also this, they clustered badly outside in hot weather, no matter how much room I gave above brood-chamber or shade to the hive. I tried raising the hives so that the bees could fly out all around, as recommended by A. G. Hill; but in every hive so raised, I found that the moth did far the most harm. I have two of Armstrong's Centennial hives, and though shaded no more than the others, and containing very strong transferred colonies that have not swarmed yet, still they



do not cluster outside. As I partly filled the upper frames with thick foundation, that may account for it. They drew it out beautifully in 24 hours, making the septum so thin as to be transparent, and raising the cell walls half way. This is my first experiment with foundation, and you may count my vote in its favor for brood and extracting frames.

WM. CAMM.

Holley, N. Y., June 9, 1879.

I purchased 3 colonies of bees in the spring, transferred to the Doolittle hive about the middle of May, and used cord to tie combs in the frames. When I looked them over a week later, I found some had fallen out of place, but most of it was in good order. One colony being very strong in bees, I took off 2 surplus boxes June 1st. The weather was cold and wet during the past week, so that they could not go out much. This to me is new work, but I did not get a sting while working with the bees; but a week ago, while passing out of the yard, one stung my ear, resulting in great swelling. What can be used to check it, when ammonia or saleratus will not do it? I fed the honey, obtained from pieces of old comb at night, in tin feeders, made for the purpose, and placed in front of the entrance; they filled the brood chamber rapidly. While the cherries were in bloom, they began to work in the boxes. In helping a neighbor transfer, we used thin strips of wood to brace the combs, and all were right. In transferring I followed the instructions of Prof. Cook's Manual and the AMERICAN BEE JOURNAL. The Bingham smoker is a treasure. Any one wishing the aid of a young woman as book-keeper, and capable of aiding in their correspondence, who could teach her bee-culture as a business, for the compensation, are requested to correspond with me.

MRS. A. S. KEYS.

[A tomato leaf crushed and rubbed upon the flesh, after removing the sting, is a very good remedy.—ED.]

Indianapolis, Ind., June 8, 1879.

I wish to address the bee-keepers of Indiana and urge upon them the benefit of visiting neighboring bee yards in obtaining practical information and observing the relative conditions, etc. I am satisfied that valuable articles are not appreciated as they would be, if we were an eye-witness to the facts spoken of. We could converse individually and personally with those having made the experiments. I am in favor of National and State organizations, for if we wish to master our profession, under such conditions only can success be expected. We must take interest enough, not only to read what is printed upon the subject, but we must advance in knowledge by individual and organized efforts. I have just visited some bee-keepers, and found much distress "all along the line." While being well paid for my time and expense, by the information and conversation of experienced bee-men, I have found them unanimously in favor of holding a State Convention, and I would ask all to state their views, in the

AMERICAN BEE JOURNAL, in regard to organizing one. United action will result in good to ourselves, and satisfy the desires of consumers in general. By the distribution of the pamphlet, "Honey as Food and Medicine," and in various ways we can create an interest and demand for honey. Many are as yet in darkness concerning the cause of the death of our bees, therefore, in my judgment, we could make it very profitable to meet sometime this summer, say in August, and converse on the best way to preserve our bees the coming winter. Although many of us have practiced bee-keeping for years, yet a close observer can hardly visit an apiary or converse with an intelligent bee-man without gaining valuable thoughts. I have gained many valuable ideas from my visits and conversations this season. All bee-keepers, while stopping in Indianapolis, are respectfully invited to visit either my uncle's, M. A. Schofield, or my own yard, or call on me at No. 11 Bates Block.

C. S. SCHOFIELD.

[See letter, on page 300, from the Vice President of your State.—ED.]

Nodaway Mills, Iowa, May 29, 1879.

I send you a sample of a plant that grows wild in the hazle brush here. It seems to be a favorite with the bees, and blooms about 2 weeks. Can you tell what it is, and state its value as a honey plant? My bees are doing well. I lost but 3 out of 25 during winter. My location affords both timber and prairie range. The river bottom in the fall is a sea of flowers.

R. C. AIKIN.

[This is the smooth water leaf (*Hydrophyllum canadense*). They would be valuable, if sufficiently numerous, as honey plants. Many flowers, like the above, are generally too scattering to be of much value unless cultivated.—A. J. COOK.]

Battle Creek, Mich., June 14, 1879.

Peter James asks for information in the June number of AMERICAN BEE JOURNAL, page 251, how to clarify wax. I put lumps of charcoal in the pan of water under my extractor, and my wax comes out a handsome canary color.

B. SALISBURY.

Shelbyville, Tenn., June 7, 1879.

I have tested smoker and foundation sent me in April. The Bingham smoker is good; I could not do without it. The foundation is an invention which no successful bee-keeper should do without. I have used it in the brood chamber and as starters in small frames for surplus honey, and the bees so thinned it, that was it not for the yellow appearance, I could not tell the difference in it and natural comb. Bees are not doing well in this county; it has been a hard time for them; the frost killed all the early bloom and the dry weather has injured white clover, so that the bees have stored no surplus honey as yet; from 27 colonies I have extracted 71 lbs. only. I have had but 6 swarms.

J. W. PRICE.

Correspondence.

For the American Bee Journal.

The Harvest of White Honey.

G. M. DOOLITTLE.

Our honey harvest usually commences about June 20th, and closes from July 20th to August 10th, unless we get a yield of buckwheat honey, and in that case it closes about September 1st, we almost always having a period of nearly two weeks scarcity between the white honey harvest and buckwheat. The 4th of July is the earliest we ever took off any box honey we believe, so we will suppose that our swarming is all done up by the time this reaches you, and we are ready to look after the boxes. If you did not forget to put your boxes which were nearly full of comb in the center, on top of each hive, you will now only need to look after those to ascertain if any are fit to come off, as those will certainly be the first finished. To do this, get your smoker, gently pry the cases apart with a stout knife, blow in a little smoke so the bees will get out of the way, and you can see if they are completed. If they are, pry the cases off a little at the bottom, and then lift out gently the case holding the finished boxes, and give it a quick shake, as you would a frame to dislodge the bees from it. Shake the bees off at the entrance so they may readily enter the hive; remove the boxes from the case, and shake off from each separate box the few bees that may still cling to the honey; fill the case with empty boxes provided with starters, and put it in place again on the hive. Set your honey in your wheelbarrow or cart which you have to carry the honey to your honey-room with, and go on to the next hive, and so on till the apiary is gone over. There is little danger of robbing at this season, but if the bees seem disposed to follow your honey, keep it covered with a sheet.

In a week start over the apiary the second time, and so keep going over it once a week, being sure that all filled boxes are removed, and thus your honey will be nice and the combs as white as snow. If you use side boxes, raise the partly filled ones from the sides and put them in place of the full boxes taken off, and place the empty ones at the sides. We usually place but one tier of boxes at the sides at first, and then when the bees get well at work in them, push them out and place the other tier between them and the side of the hive, thus inciting the bees to greater activity. As the season draws to a close, we raise the side boxes to the top and close up the sides with the followers, so as to get all boxes commenced in filled if possible. With the top-box hives, we crowd the partly-filled ones together, placing the empty boxes on the outside instead of the centre, as at first. It usually takes us four days to go over the apiary in the height of the season, leaving us two days to look after our nuclei and attend to the many duties which devolve on the apiarist.

Store your honey in a small, tight room,

placed on scantling, so that the fumes from burning sulphur can enter or pass between each box, so as to kill the larvæ of the wax moth which always appear to a greater or less extent, burning $\frac{3}{4}$ of a pound of sulphur to every 200 cubic feet contained in the room. To best do this, your scantling should be raised at least a foot from the floor, and a kettle with some coals in it placed beneath. Pour on the sulphur, close the room tight, and leave it for fifteen minutes, when it should be opened to let the smoke out, for if it settles on the combs it will give them a greenish tint, or if you burn more than the above amount it will turn the combs green. We have found it a nice point to burn just enough sulphur; if you use too much, it hurts the looks of the honey, and if too little all the worms are not killed. Burn your sulphur two weeks after the boxes are removed from the hives, as the eggs are generally all hatched by that time, and if you store all in the same room, sulphur once in two weeks till the last is off. Your honey should be assorted, as piled, into about three grades—first, second and third quality. Put nothing but A No. 1 in the first, the colored combs and the mixed in the second, and the buckwheat in the third. By this way you will be saved trouble when you come to crate it for market. In short, have an eye to business, as this month is the harvest time for bee-keepers in most localities, and leave no stone unturned that will give you a pound more honey.

Borodino, N. Y., June, 1879.

Florida Sun and Press.

Bee-Keeping in Florida.

DR. G. W. DAVIS.

Bee-keeping in Florida has not received that attention which its importance deserves. The improved hive, and modern treatment of the honey-bee has been little thought of and seldom employed in this state. Until very recently the improved stock, or Italian bees, have never been introduced. People have been content to get their supply of honey from the wild colonies of the woods or from the old-fashioned bee-gum of centuries ago.

There are many localities in the state where the apiarist might succeed, but as a whole we do not regard Florida as the best state for the successful cultivation of the honey crop. The principal drawback is a want of bee pasturage. True we have many plants and flowering shrubs and trees that afford an ample store of nectar in their season, but there is not that succession of honey-producing flowers, and such a range of pasturage as may be found in more northern states. The cotton regions and dense hammocks undoubtedly afford the best pasturage for bees; next comes the orange, palmetto, melons, etc.

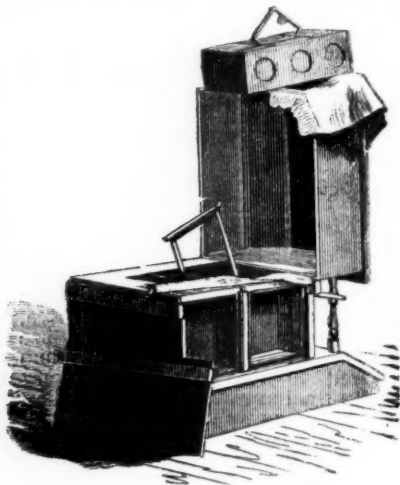
Basswood or the linden does not grow here, and the clovers—the very best bee pasturage plants—have not as yet been acclimated here. As the country becomes settled up and more thoroughly cultivated in the various cereals, fruits and pasture plants, bee-keeping will progress accordingly, but at present no extensive establishment will flourish except in the cotton growing regions, and we must be content with a few colonies in any one locality.

For the American Bee Journal.

My Winter-Protector Hive.

HIRAM ROOP.

Thinking some of the readers of the BEE JOURNAL may wish to see a cut and description of my winter-protector hive, I furnish the following description of it. After using nearly all the hives I ever heard of, this is my favor-



Roop's Winter-Protector Hive.

ite: The frames are 10x10 in., inside measure. I have found that bees winter and spring better in this size of frame than in any other. If the colony be crowded upon as many combs as they can well cover, with the division cushion and side chambers filled with sawdust or chaff, they will winter well every time, even if placed on the top of buildings, fences, or in fact anywhere. This hive is also a non-swarmier, if the colony be started in the side chamber at the right time. It has four side compartments and one rear compartment, with three frames in each, mak-

ing 15 frames around the hive proper. The latter takes 12 of these 10x10 in. frames. I had 12 colonies in this hive last season, and they gave me less trouble and more honey than any other 24 colonies. I use 10x10 frames in all my hives. It is public property, and all may freely use it, who desire to.

Carson City, Mich., May 18, 1879.

For the American Bee Journal.

Shipping Bees—Their Endurance.

GEORGE E. STEELE.

I have lately had a little experience in shipping bees, and can probably give your readers the best time on record. They were transported 242 miles, all the way as freight, and were exactly two weeks in confinement. Take off the express!—no use for that now. But be sure and have every man understand, in the first place, that he is to make all the mistakes he can. No other need apply.

But how about the bees? I sent to James Heddon, of Dowagiac, Mich., for 4 colonies of his best Italians, knowing, too, that his frames were just the size I wanted, which is a point gained. He shipped them precisely as ordered, taking much care in selecting, packing and shipping. How they came as freight and the long delay, I will not stop to explain. It is the packing which is most important. The entrances were fastened by the entrance blocks nailed over them; the frames nailed down at each end and cemented by propolis besides. Frames should not be disturbed just before shipping. On top of the frames, at one end, was fastened a large piece of burlap or coarse cloth, folded several times and saturated with water just before starting. This will give a supply of water for any ordinary journey. The upper stories and covers were sent separately, and in place a frame 2 in. deep covering the entire top of the hive, was nailed on, having a covering of wire cloth. Across the center of this was a narrow strip strongly nailed on outside to prevent benighted express or freight men from piling one hive on another and smothering the little travelers, as well as to afford a sort of handle to lift the package by.

Result: Owing to all the above precautions, notwithstanding fate at one time seemed to be against them, the bees arrived in quite good order. Larvæ and eggs were mostly out, either hatched or destroyed, and a mass of rubbish in the bottom, but the queens were alive, and so many bees, I wondered where they could all have kept themselves—a small amount of honey. In an hour from opening them some were bringing in pollen, and the next day eggs and honey were scattered "promiscuous." Not a broken comb could be found. I suppose Friend Heddon does not believe in "predestination," but when he packs bees it means "destination" to them, no matter what mistakes are made in transit.

Elk Rapids, Mich., June 11, 1879.

For the American Bee Journal.

Swarming, Wintering, etc.

JAMES HEDDON.

I have carefully read and re-read the able articles on these subjects by Messrs. Dadant and Doolittle. I call them able, because they coincide with my ideas, experience and management, to a great extent, and I mean by able that which is true to nature, and of course I think I am on the right track, or I should get on another immediately. There are a few points, however, in each of these articles that I wish to look after a little, and state where these gentlemen would be wrong, in my locality.

Should we cut out all our drone comb, as Mr. Doolittle suggests, our bees would cut away worker comb, and rebuild the space with drone-sized cells. If Mr. D.'s bees will not do this, he should soon be through his June pruning. My plan for keeping up my blood, is to cut off the heads of pupa drones that are of bad traits (not rings), and keep less drone combs in the least desirable colonies, and more in those of choicest habits. Poor colonies soon become so scarce that but little labor is required to doctor them so as to prevent their increasing their kind.

I have tried the plan of artificial swarming (just this one that Mr. D. prefers), but I have 3 objections to it:

1st. At any time after dividing is admissible, if we put a whole working force into an empty set of combs, the bees desert the boxes placed thereon, and fill the combs with honey, crowding out the queen. This is just when we have no time or desire to "extract." We, like Mr. D., are after comb honey, and are very busy. We can get more box honey without these combs than with them; more extracted honey with them.

2d. Natural swarms work with an inspiration and satisfied air that is pleasant to see and profitable to enjoy that no other system of increase can boast of.

3d. Natural swarms are not near as liable to re-swarm as artificial ones. I suspect that the queen considers a wing exercise, at least once a year, her legitimate right.

Mr. Dadant says about what I have thought to be true, that "uneasiness and dissatisfaction" are the causes of swarming.

Where there is much swarming done by the same season's swarms, you will notice that those colonies re-swarm much more than have clipped queens. The workers evidently are jealous of them, or are, to say the least, "dissatis-

fied" with only a fraction of a mother, be it ever so much of a majority. I agree with Mr. Doolittle in regard to small hives, and cut my 10-frame Langstroth hives down to 8 frames 4 years ago.

It is hardly possible to lay down any fixed system of management that will work equally well in all localities. Hon. Geo. E. Steele, of northern Michigan, who recently visited us, says that propolis is gathered in such quantities there that it is almost impossible to use boxes within frames. So it will prove to be with many other arrangements and principles.

Who will be the first to devise some cheap method, that is off-hand, reliable and practicable, to run a half dozen apiaries, with no loss from unattended swarming?

WINTERING

is again agitating the pages of the placid old AMERICAN BEE JOURNAL. From my experience with this "cholera" or intestinal winter disease, it sounds to me simply ridiculous to hear men talk about their "great neglect and consequent loss;" "bees too damp;" "too cold;" "were housed;" "were not housed," etc. I will now give you a statement very close to the exact facts, as to how bees wintered within 6 miles of this place:

J. V., 4 miles south, in the fall had 21 colonies left carelessly on the summer stands; 19 came through all right, 2 died from lack of stores; no cholera.

A. H., 6 miles southwest, had about 20 colonies in plastered bee-house, above ground and above freezing; loss over one-half.

Mr. H., 2 miles from A. H., had about 16 colonies; uncared for entirely; no loss and no disease.

Mr. A., 4 miles southwest, had about 40 in special repository above ground; loss nearly one-half.

Mr. S. M., southwest 7 miles, had 15 colonies; no care; lost 12 of them.

R. C., 2 miles west, lost over one-half; all were packed with straw and chaff.

T. E., 6 miles northwest, had 12 colonies; lost 2 from lack of stores; no disease, and no care at all.

J. H., 4 miles north, had about 40 colonies; 5 or 8 alive; no care.

Mr. C., 4 miles northwest, had 15 colonies packed, or protected with corn-stalks (I cannot ascertain which); lost 14 of them.

Mr. D., of this place, had about 20 colonies (black bees); lost all but 1 or 2; part were packed, and part in cellar.

A gentleman about 40 miles north, packed 94 colonies scientifically in "chaff;" all but 2 were dead long ago, and how those are coming on I cannot



say. I would kill them, and either look for another bonanza, or try our only remedy, viz: Breeding up a race that can keep well, or that can get sick without dying.

I have stated the facts as nearly as I can obtain them, and leave you to form your own conclusions. After 3 years' experience with this death among bees, I (almost alone) pronounced it a *disease*. I was laughed at by nearly all bee-keepers, but not convinced to the contrary, as nearly every one had a different way of accounting for it.

Dowagiac, Mich., June 1, 1879.

For the American Bee Journal.
The Season in Alabama.

JOHN R. LEE.

The mortality among the bees in this county has been very great, fully 50 per cent. are dead. Situated as we are, in the Sunny South, it would be reasonable to conclude that they should winter with very small loss. Usually this is the case, but last season we had a very severe drouth that dried up all the flowers, reduced the bees to the starving point, and but for the astors that bloomed in October, the race of bees would have become nearly extinct.

Many good combs are left, which if properly cared for, will be a great help in building up again. Every apiary should have some good place to keep empty combs secure from the moth. Some argue that we are past the brimstone age, but I think otherwise. It should not be used to kill bees, but to kill moths and their eggs. A large quantity of valuable comb is lost every year by carelessly leaving them exposed. A good way, is to place them in a tight box, 2 or 3 ft. square and 3 or 4 ft. high, so arranged as to take the frames as they hang in the hive; occasionally burning brimstone under them. In this way they can be kept ready for use.

Bees commenced carrying in pollen on Feb. 11th, nearly a month later than last year, but we are now having honey-dew nearly every night. I first noticed the bees humming about the peach trees early in the morning, and as there were no blossoms, they were carrying in honey-dew. A box-elder tree in Huntsville, was literally covered with this sweet substance; many of the leaves were covered with a green louse or aphidæ, but whether they produced the honey-dew, or whether the sweet attracted them, is not settled with me. If their eating the leaves causes the sweet to ooze out, why is it not found

on the underside of the leaves? These insects I found on both sides, while the honey-dew on this box-elder tree was all on top of the leaves, and no painter could have put it on more evenly. At first sight, they appeared as if they had been smeared with grease; the taste was too sweet to be pleasant. I noticed ants and flies helping themselves to the feast. The bees are building up rapidly, and since May are beginning to swarm. Last year our first swarm was on April 12th.

Huntsville, Ala., May 11, 1879.

For the American Bee Journal.
Preparation for Wintering Bees.

A. E. WENZEL.

This is an absorbing topic among apiarists, and many knowing ones enthusiastically make known their peculiar modes of protection, prematurely—"counting chickens before being hatched"—all in accordance with their own personal conveniences and situations as best afforded, but still no fiat law to govern wintering bees satisfactorily as the best mode, under the varying circumstances, has been determined, for it has to be yet practically tested for a series of years, with this end in view, by special direction; for all reports however faithful, seemingly independent, have a taint of chance.

I, too, fell into the rut—you will pardon me—but thinking "discretion the better part of valor," not knowing what might take place between "wind and water," deferred, but can now conscientiously report for myself, for last winter, in three words, "unprecedented good luck."

Looking back over a series of fifteen years of bee-keeping, I have known experiences, trying in the extreme to myself and family, while having only a few colonies in primitive hives. One time I was willing to discard the industry as a nuisance; but having a number of colonies kept on shares, that, too, resulted in like experience to my own—no returns. Such harassing events I weathered through by dumb luck, till accidentally I fell in with your valuable BEE JOURNAL, and now in this same locality, my family experiences no inconvenience; on the contrary, a pleasure, especially the view of a miniature village, because we know now in a measure, how to compensate for those evils, where formerly ignorance in manipulation would lead us into the grossest excesses of carelessness.

Your valuable JOURNAL brought me vis-a-vis with this blundering, haphaz-

ard manner of doing things, and induced me to seek the National Association last fall, in New York City, where I was immediately convinced, upon viewing honest, intelligence countenances, that the highest attainments in practical and scientific bee culture was paramount, and that it was specifically other than for mutual admiration, or for a species of political place-hunters. Its dignity was so far up, and, too, with becoming propriety, that I dared not "open my mouth for fear of putting my foot in it." But I did venture after a time, while occupying a back seat, to make a statement of what I proposed to do to winter my bees (some 60 colonies), when several members turning around, looking me square in the face, I hurried nervously into my seat, but their voices came immediately and spontaneously to my relief, saying, "You are sure to winter successfully!" This assurance, coupled with my own practical experience in other ways, by making frost-proof partitions in barn stables, was the incentive to prosecute it diligently.

The cost per hive for frost-proof protection I adopted was about 10c. Time required to place same in winter condition, on summer stand (say 50 hives), was, for two men, about 1½ days' labor, and to resume summer garb this spring, took of my own labor about 7½ hours in all, with cleaning up all debris in and out of hives—allowing the buckwheat hulls to scatter over the sward ground, where the bees industriously gathered pollen from the little particles of flour adhering, reveling on the same in sunny early-spring days.

My mode is substantially as follows, viz: A projection upon hive (which may be permanent or temporary) is grooved, wherein to insert a thin board, allowing about 2 in. space to be filled with buckwheat hulls—these are better than chaff, I think, as they settle readily into all interstices. This upon four sides, with little slanting roof-boards above to ward off the rain, while the opening to the hive should be guarded by a similar board, to prevent clogging the entrance. About 1 in. up from the bottom board, over the top of the frame I placed a tight box, about the size of a brood-chamber, 2½ to 3 in. high (with dove-tailed ends, allowing them readily to be put together); then place wire-cloth strips, about 1¼ or 2 in. wide by 12 to 15 in. long, bent semi-circular like a long trough, over and across the holes in top bars, with a piece of muslin, 18 to 20 in. square, laid carefully over all. This fitted in the depth of the box above, lightly pressed

into the corners, affords a winter passage underneath for the bees to pass to and fro, without exposure and without currents of air, giving an extended surface of buckwheat hulls to absorb the moisture. This runway, upon favorable weather in winter, reminds one of a busy thoroughfare, and I claim this upper protection of paramount importance, in wintering bees on summer stands, upon any and all hives of whatever construction.

After the buckwheat season last fall, I displaced the surplus boxes by putting enameled cloth over the holes, till cool weather came, when moisture might be condensed therein, when I replaced the same by fixtures as described above, without disturbing the frames, or even considering the amount of winter stores. When late in April, relieving them of these fixtures, I found all, with one exception, prosperous, and this one was robbed—not dead; and what is more, the floor of the hives were uniformly clean, except a little in the front corners, where some dry refuse with a few dead bees were gathered, and no signs of dysentery were discernable anywhere. This I attribute to my leaving the bees severely alone in cold weather, for I did not disturb the snow when hives was drifted under them, except upon nearing warm weather, when it was liable to settle down and freeze up the openings; then I caused the snow to be cleared away from entrances.

In moving the buckwheat hulls, that upon the outside of the hive falls off without difficulty, while that on the top of the frames, by gathering in the four corners of the muslin cover, is easily lifted off without in the least encumbering the bees, and the hulls readily drop away upon the ground, or into a convenient receptacle for safe keeping. The muslin cloth is then placed over the frames, till required to be superseded by surplus boxes, for the summer season.

I noticed a few peculiarities for last winter, which succeeding winters may demonstrate more fully, viz: That formerly when my bees had no care, but their own, under adverse circumstances, when taking flight, which would be frequent upon mild, sunny days, they would discharge their feces indiscriminately upon everything—soiling, perchance, "a washing" upon the line,—besides perishing in great numbers on the snow. But this last winter, my bees did not act so; lost but few on the snow, and I have noticed but little of their feces being discharged anywhere; particularly, their combs all



look clean. This may be a good indication; but then the question arises, What becomes of the feces?

Another thing I noticed, when delivering a few colonies sold early this spring, to be taken on sleighs a long distance, upon examination by removing the top protection, I found a moth worm on two respective hives. This was the first mild day of spring. What should this denote?

Callicoon, N. Y., May 3, 1870.

[Very rarely do bees discharge their feces in the hive, unless diseased or disturbed, hence their combs *should* all be clean; and as they were not diseased, they flew so far away from the hive before relieving themselves, that you did not notice it all. The moth worm you speak of had, no doubt, wintered over in some stage, or it would not have been there so early in the spring.—ED.]

For the American Bee Journal.

How I Catch Swarms.

ROBERT CORBETT.

For the past 10 or 12 years, I have not cut my fruit trees to catch swarms. I get an ordinary sized basket, and nail a $\frac{3}{8}$ in. board on the bottom, with some suitable springs under it; then bore a hole in the center, and put an iron down through, with a loop on the top and a nut on the inside, and screw it fast; buckle a strap, 6 or 8 in. long with a snap on it, in the loop. Have a pole, cut from the edge of a 2-in. plank, dressed any length, from 8 to 10 ft., with a ferule on each end and $\frac{1}{4}$ in. iron rod 16 in. in length; take a small ring, and bend an eye on the end of the rod, with the ring in it; taper the other end, and make it secure in the end of the pole; then curve it so as to project it 6 or 8 in., in which snap the basket catcher.

To use it, push it among the branches of the tree which the bees are making for, and if they do not light upon it, when they begin to cluster, put the catcher up against them, and when you get part of them on your basket, move it a little away and toward the branch that they are on, and they will all settle on the basket in 5 minutes.

To complete the pole, get a $\frac{1}{2}$ in. rod of iron, 12 in. long, tapered at each end, and secure it in the lower end of the pole; and when the bees begin to settle on the basket, stick the spear in

the ground and let it stand, while you are preparing the hive, etc. Then take down the pole and unhook the basket with bees, which may be carried any distance you wish. Shake off the bees on an open sheet, in front of the hive, showing them the way, and they will go in faster than a flock of sheep into a yard, after the gate is open.

Malden, Ill., May 1, 1879.

For the American Bee Journal.

The Cause of Dysentery.

J. O. SHEARMAN.

What causes dysentery? Too much cold, poor honey, moisture or moldy combs. But how about prevention in such a season as this? In all hives I have examined, where the bees died of dysentery, either this season or 2 years ago, I found dead brood in some of the combs, with more or less punctured caps. The latter is one indication of foul brood, but the combs and honey have generally been used, after warm weather came, with no bad effect. I was at the Michigan Convention, in Kalamazoo, the May after the great fire, and heard Mr. Rood say that the cause of the death of his bees was beyond his knowledge; he never saw or heard of the like before. Many in this section, also, lost heavily, and laid it to the smoky atmosphere, the fall previous. Some claim that it is a disease.

I generally winter successfully, and thought I knew all about it. But this season takes the conceit out of many of us. By the time we get out of the woods, some of us won't feel much like whistling. It is often asked, "Why did not bees act so, years ago? We never heard of so much trouble in wintering, until within a few years." I have an opinion upon these points, and would like to express it, with a view of bringing out the opinions of others through the JOURNAL. I believe in cause and effect. We have the effect (an accomplished fact); now, for the cause:

1. Anything that causes unusual excitement in a hive, without the privilege of voiding properly, *i. e.*, on the wing, conduces to dysentery.

2. Sudden changes of temperature causes excitement among the bees, if shut in. An unusual amount of breeding causes excitement, as the bees want to feed them and carry water. A bad smell in the hive causes excitement, and is the most fatal of all causes. Sour honey also causes excitement, as it physics the bees and makes the air foul.

My bees were contented, so long as the steady cold weather held on. All the hives had live bees in, when winter broke up. Now, April 17th, my loss is 26 per cent.; the largest colonies suffered first, while the moderate-sized ones generally and some pretty small ones, came out all right. Why? The large colonies gathered more late honey, which kept sweet until mild weather began, then soured. We had a very cool fall, and colonies that had much of this late honey did not have warm weather enough to work it over and thicken it. In February we had a thaw, a few days of quite warm weather, that caused the bees to breed; many of them starting more brood than they could cover and feed, when the cold weather came, shortly afterwards; therefore, some of the brood died, but did not do so much harm till mild weather came again, when it caused a foul smell, then consequent disease.

In this connection, allow me to state a mild doubt, whether there is any such thing as a regular disease of foul brood, except from some such cause. Langstroth states foul brood to be catching, only by the use of the honey. Why? The dead bees and decaying brood generate a sickening stench that permeates everything it comes in contact with, and has much the same effect on the system of the bees, as the smell of a patient in typhoid fever, in a close room, has upon the human system. Therefore, the bees will die off, even after the mild weather sets in, and the warmer the change at, first, the greater the mortality for the time being. Clean out the hive, and disinfect it as soon as the weather becomes warm enough safely do to so.

Two years ago, we had a very warm spell in February, which caused the queens to lay, and some showed the same symptoms that occurred so frequently this spring.

A friend, in an adjoining county, wrote me that his bees were dying at a fearful rate; I went over there, and found them in a bad plight. I cleaned them out, but he finally lost 32 out of 43 colonies. When I got home, I found some of mine with the same symptoms, scattering dead brood in the combs, a bad smell, and some bees dying. I picked out one of the worst, and sprinkled the bees and combs with a solution of salicylic acid, saleratus and water; repeating the dose in about a week, when they then appeared much better; they finally got well, and built up to a good colony again, with no return of the same symptoms last year.

If foul brood is a separate disease,

will some one experienced in it, please give the primary cause, and also how much difference there is between that and this year's run of dysentery? In a back number of the JOURNAL, a professor in Germany gives the result of some experiments he made with foul-brood combs. He demonstrated that the dry mold gave off spores or particles that float in the air. But I doubt if the proof was conclusive, that those spores generate the disease. If some lucky (?) brother will send a little of such diseased comb, I will introduce it to a colony, for the sake of what knowledge may be derived, and publish the results. Or let some one else experiment further, and report in the BEE JOURNAL.

New Richmond, Mich., April 17, 1879.

◆ ◆ ◆

For the American Bee Journal.

Primitive Home of the Italian Bee.

T. L. FRASER.

In endeavoring to fix the primitive habitat or place of origin of the Italian bee, considered in his wild or indogenous state, we could offer only vain or speculative reasoning of little practical utility to the apiculturist, who seeks to attain that purity of type or standard of character upon which the intrinsic value of that variety of the honey bee depends; but if we can succeed in showing that the honey bee of the Greeks and Romans, as described by Aristotle, and Virgil, and other Greek and Roman writers, was the one whose description specifies, at the present day, the best samples of that variety now in so much demand with practical honey producers, as well as the bee-breeder whose office it is to seek to elevate the standard of its purity and usefulness,—I shall have gained a point upon which to base its further improvement. In other words, if it could be made apparent that the bee cultivated by the Romans, and in common use among that people during the reign of Augustus Cæsar, and for an indefinite period antecedently, is the one that best answers to the description of the purest types or samples of the Italian bee of the present age, a point would be gained in discussion which would at least serve to direct the attention of the bee-culturist to the precise locality where the probabilities are in favor of its having existed in its greatest purity, through the successive ages which have intervened between that time and the present.

The original habitat of this, and the other varieties of the honey bee, as I



have said, is not relevant to the point at issue, as most authors are agreed, I believe, that it is the torrid zone; but the domestic and political history of the different nations and countries, where the German and Italian bees have been domesticated and made an object of attention and care from a very remote period in history, have a very important bearing in determining the probabilities in favor of a locality where it may have existed in its greatest purity. The present existence of the many varieties of the honey bee, mentioned by Mr. Frank Benton in a former number of the BEE JOURNAL, as inhabiting the countries of Southern Europe and the Levant, testifies to the intricacy of the subject, and leads us to the conclusion that if such numerous varieties of the honey bee exist in such close proximity at present, that in former times it would have been exceedingly difficult, considering their habits both in the domestic and wild state, to preserve any one kind or variety pure.

Aristotle mentions three kinds, and Virgil two, but as the one described by each as in common use in their respective countries, answers to the description of the present Italian (of bright golden color) or Ligurian, we may conclude that the ancient boundaries of the countries, whose inhabitants spoke the Greek and Latin idioms, constituted the true inhabitant of the Italian or Ligurian bee, not only during the dominance of the Pelasgic races, but subsequently, for the following reasons:

So long as the Pelasgic or Hellenic race preserved its integrity and political domination, its domestic and social institutions perpetuated by hereditary usages, and that insulation which was almost a stranger to exterior commerce, it is presumable that the Ligurian bee was perpetuated in its purity and character in the same manner that the German or black bee was among the northern nations of Europe; and that whilst the Ligurian bee was extended in its domain by the arts of the domestic and civilized culture peculiar to the Greeks and Romans, the black bee was enlarged by that spontaneous emigration eminently instinctive in both varieties, and keeping company, from a similar instinct in human character, with the Sanscrit, Aryan and Germanic races, and probably, like their human masters, developing their history from a Hindoo or tropical source.

If this be true, is it not probable that *Apis Dorsata* is the common father of his less robust, but equally industrious descendants of Europe? Is not this

the more probable, from the consideration of the fact that domestic gentleness is the result of long continued domestic culture and usage? How much more gentle and docile the true Italian bee than the wild German, addicted to its native forests! One of the first and most striking peculiarities of the black bee, to the novice in bee culture, is the wild and perturbed state of both the queen and worker, when he opens a hive to handle or observe them. How different the domestic turkey from his tougher and more agile congener of the forest, though having but 300 years of domestication!

But my purpose is to show that Central Italy is the best source whence to obtain the Italian (or, if you choose, the Ligurian) bee, and whilst praying prosperity upon all bee-culturists, including venders of queens and nuclei, candor and prudence impels me to proceed to the point.

Separated from the rest of Europe by that, to man, almost impassable barrier, the Alps, Italy is and was insulated from the immigrating inroads of most of the insect races, excepting that boundary which was such a formidable barrier to human aggressors, and consequently, for thousands of years, the black or German bee has been trespassing upon his equally aggressive, but more docile neighbor of Italy, and *vice versa*, so that as a natural sequence, the bees of Northern Italy are hybrids, and although they present the three-banded test, they are obviously of a darker color than those of Middle and Southern Italy. So convinced I am of this fact, that to import a queen from Northern Italy, unless she is carefully and specially derived from a pure source, is in effect to obtain a hybrid mother from which you vainly expect a pure stock of Italian bees, and consequently have to display great care in selecting queens and drones, in order to get anything like a fair sample, spending years of toil and care to obtain that which ultimately is but a hybrid still.

Tuscany and the Roman States, it is believed, perpetuated the ancient Italian bee with a tolerable degree of purity, but even in those States the American purchaser of queens and nuclei upon which he stakes his credit, honor and interests, cannot be too cautious in his selections.

Had the Vandals, Goths, Lombards, Heruli, etc., been addicted to a settled instead of a nomadic mode of life, they would probably have imported the black bee into Italy, when they overran that country, but nations or hordes of their habits would not be apt to en-

cumber themselves with such an appurtenance, however fond they might have been of the sweet product of the insect, and to this simple reason or cause we are indebted for the preservation of the Italian bee in a tolerable state of purity. Santa Ana, Cal., May, 1879.

For the American Bee Journal.
Habits of Wild Bees.

JOHN MURRAY.

The following extract is from "Chambers' Journal," and may be of interest to the readers of the JOURNAL:

Some wild bees are what is termed solitary, otherwise social. Solitary bees pair, and each pair has a separate nest. Social bees live together in large communities, after the manner so familiar to every cottage gardener. Solitary bees are often gregarious, that is, flock together; in fact, no insect is fonder of society. Sandy tracts are the most frequented by them, more especially commons and sand-pits. The most usual habitat for solitary bees is a sand-pit; there one may see them busily driving their fairly-like tunnels into the perpendicular face of the bank, with an energy and perseverance well worthy of our imitation. It is a very pretty scene, and not soon to be forgotten. Thousands of little insects are ceaselessly toiling for the sake of their young ones; all over the face of the pit may be seen countless holes, so beautifully rounded as to give the impression that they have been all formed by one tool. Here is a bright-looking little bee busily opening a fresh tunnel. Watch her for a moment, digging and shoveling, while down below there springs up a little mound of fresh sand, scraped out of the burrow by the hind legs of the toiler. A little further on is another burrow; the hole is beautifully circular, and the little heap of sand below is larger and dirtier, showing that some hours have passed since the nest was finished. Suddenly down pops a pretty female bee close by the entrance to the tunnel. How active she has been; her body and legs are covered with pollen dust, which gives her a yellow hue. She is a little tired after her morning's work, and rests awhile sunning herself on the face of the bank; very soon she runs quickly into her burrow, and disappears from view. At the farthest end of the tunnel is a circular cell, carefully hammered around the sides and made firm by a kind of glue, to prevent a fall of sand. In the middle of this cell is a round pellet of pollen and honey, and on this ball of food is placed the egg, whence in time will emerge a hungry and ravenous grub.

Some of our wild bees are called "artificers," and their life-histories are among the most interesting of all. These are the plasterers, who belong to the genus *Colletes*; a word signifying "a plasterer." The plasterer bees burrow in sand or in the interstices of old walls. They are pre-eminently gregarious insects, enormous multitudes congregating together in one spot. They

drive tunnels slightly larger than their own bodies, and having excavated the material in which they burrow to the depth of 8 or 10 inches, they begin the task of finishing. They possess beautiful two-lobed flat tongues, with rounded ends. These tongues serve the purposes of trowels, and by the help of them they plaster up the walls of the interior of their tunnels with a peculiar fluid secreted in their glands. This soon hardens, forming a membrane more delicate than the thinnest gold-beater's skin, and resembling in its gloss the slimy path of a snail. Three or four of these membranes are successively formed, one inside the other, and the cell is then stored with honey and pollen; an egg is laid, and the cell is sealed up with a cap of the same material. When completed, each is somewhat thimble-shaped, and several being formed in the same burrow, they fit most beautifully into each other, and furnish us with an illustration of insect architecture.

The mason bee, belongs to the genus *Osmia*. Although they are called mason bees as a group, some burrow in the earth and some in the pith of bramble sticks, but nearly all of them construct a kind of stone for building their cells. They are pre-eminently spring insects. The most common species are often abundant when the laburnum is in flower. The habits vary according to circumstances, and its nests are found in nearly every situation. Two kinds of mason bees choose empty snail shells for their homes. In selecting a shell the bee sometimes pitches upon an unusually large one, with a very roomy whorl. In such case she fills the space by forming two cells side by side, and when she reaches the opening of the shell and finds the mouth of the whorl too large for this device, she constructs a couple of cells transversely. One species of this interesting genus, found in Perthshire, Scotland, forms its cocoons in the hollow cavities beneath flat stones. A stone was found at Glen Almond, 6x10 inches in size, with 230 cocoons adhering to it.

Some wild bees do not make any nests of their own, but inhabit the homes of other species. Such bees are called parasites; a name borrowed from the well-known social character, sometimes called sponges. Whether they are really parasites in the sense of getting all they can from others, is not known. Some parasites habitually accompany particular species, in whose nests they are invariably found; others frequent the nests of a variety of species. Again, some of the parasites are so like their landlords, that a suspicion attaches to them that they deceive them by the similarity of their appearance; while on the other hand, some are so different that no industrious bee could possibly mistake them for its brothers and sisters. The most probable use these parasites serve, is to prevent the waste of surplus food, as nature everywhere provides scavengers. These insects are true nomads, for we find them everywhere in the bright days of May, in fields, lanes and woodland. Industrious bees vary in the manner in which they treat their lodgers. Some live with them on friendly terms, but others never meet them without picking a quarrel.



Conventions.

Lancaster County (Pa.) Convention.

¶ This Association was convened on May 12th, at Lancaster.

In the absence of President P. S. Reist, the chair was occupied by Vice President J. F. Hershey, and F. R. Diffenderfer was appointed Secretary *pro tem*.

Reports.

J. F. Hershey, of Mound Joy, said he wintered 70 colonies and 17 nuclei in doors. They came out well; he lost none at all; they are storing honey fast. The house he quartered them in is partially underground. A place four feet deep was dug; in this a frame shed eight feet high was erected. The earth was partially banked up around it. There is plenty of ventilation. The house is dark, and the temperature was from 40° to 45°. The combs do not mold. There is six inches of saw-dust on the roof, on the floor and on all the sides, thus absorbing all the moisture and keeping the house dry. Mr. Detweiler, a neighbor, has a house of the same kind. He wintered 75 colonies and lost none. His 70 colonies were put in on December 10th; taken out March 10th for a flight, and put back until April 7th. The operation consumed only 80 minutes.

D. H. Lintner wintered 13 colonies on summer stands. Lost four in January and February by dysentery, as he thinks. They were housed near a gate and in rather a damp place. To this, and the continual slamming of the gate which disturbed them, he attributes the mortality. He cured the dysentery in other colonies by giving them oil of aniseed. The dead colonies had plenty of honey, but the combs became moldy.

E. Kreider wintered 14 colonies, losing two. Those left are strong and storing honey. He put chaff around two that were weak; these are now among his strongest colonies, and are storing honey.

Henry Shiffer wintered 38 colonies on the summer stands. They are all in excellent condition. He put corn fodder around those on the north side, and boards on the top. He fed some of the weaker ones last fall; as they had only a few pounds of honey, feeding was necessary.

I. G. Martin, of Earl, wintered 29 colonies, packed in chaff. They came out this spring in good condition. Some were weak, but they also came out all right. They did not fly often; once in January and again in February. So far as he knows, all the bees in his neighborhood have come out well.

John B. Eshleman wintered 30 colonies; he lost two, one becoming queenless, and the other for want of honey before he found out they were short. His bees are in good condition, and storing fast. He wintered them in a shed protected from the north wind. He thought a strong colony will pass the winter with but little protection. Wintering them warmly will give more brood early in the season; that is the advantage of housing them warmly. If bees received the proper attention in the fall, by

taking all the frames but such as they can cover, and then add them again as they are needed in the spring, we should no doubt do better.

Jacob Gorgas has several colonies that will be ready to swarm at an early day. His bees have gathered much honey already; and are busily at work. He wintered 8 colonies, and has them all.

J. H. Davis wintered 27 colonies on summer stands. One he packed carefully and came near losing it. He gave them less protection than last year and had better results. He believed with Mr. Hershey that if bees were housed, honey will be saved.

Peter S. Reist has 50 colonies, and with nothing but a little protection against the cold winds, they all came through safely.

Mr. Hershey reported a New York man who saved only a dozen out of 60 colonies, and others in the same State who met with equal losses. Here we have had no losses comparatively.

Henry Huber thought bees ought to have more ventilation in winter than in summer, and he proceeded to relate an instance in confirmation of this fact. Currents are fatal to bees, but a chaff cushion on the top of the frames will absorb all the moisture.

The Price of Honey.

Peter S. Reist thought the members should consult with each other about the price of honey, as there is a probability of a considerable supply for sale.

J. F. Hershey. I shall ask 20 cents. If we put our honey into good shape we can get more than the California product sells for. If the crop is good we shall get less; if small, a higher price can be obtained.

Mr. Gorgas reported some of his honey granulated in the combs. He asked for a remedy, and was told it was because of the cold, and that warm weather will remedy it.

What Causes Dysentery in Bees.

Mr. Davis thought long spells of cold weather caused dysentery. If bees get an occasional flight they will be comparatively free from it.

Mr. Hershey thought cold and bad honey were the main causes. Bees must consume a certain amount of honey to keep up the heat. A weak colony consumes too much honey to keep up the animal heat. If confined too long they will get the dysentery, even if they have the best of honey. A strong colony may be confined longer, as they have more bees to keep up the heat. It is not necessary for each bee to consume as much honey as if the colony were weak.

Mr. Eshleman. If cold affects one colony in this way, why are not all affected? You may have this disease at all seasons among bees. He believes it is in the food they get. He believed a cider mill has had bad effect on bees.

Mr. Hershey said his weak colonies made just as good honey as his strong ones, and that nevertheless they got the dysentery.

Peter S. Reist had authority for saying sweet cider is not injurious to bees, but sour cider is. They may also be other foods that are unwholesome, causing this disease. Besides, it may be contagious; one hive may infect others.

Will a Virgin Queen, if She Meets no Drone within Ten Days, Prove Fertile?

J. F. Hershey had queens that did not meet drones within eight days and became fertile afterwards. He thought even fourteen days was no bar to fertility, although six days was the usual period for the queen to emerge, but bad weather may retard the flight.

Henry Huber quoted Langstroth, who was rather against the above theory. He has had experience that makes him believe fifteen days are not too long.

I. G. Martin had a queen two years ago which had a defective wing, and could not go out. She began to lay at the end of twenty days, and the brood were all drones.

Do Queens Become Fertile Except on the Wing?

Mr. Davis had a queen that could not fly. She came out several times and became fertile. The general theory, however, is that they cannot become fertile unless they take flight to meet the drones.

Introducing Queens.

Mr. Hershey gave his method as follows: I first remove the queen from the colony where I want to put the Italian queen. I put the Italian queen in a wire cage, and put a stopper made of comb that the bees did not breed in yet, in one end of the cage, the other end I pinch together. Now hang the cage with the queen between the combs near the brood, so that the bees will cluster on it. If the stopper is not made too large and pressed too tight together, the bees will liberate the queen in 24 to 36 hours. If the honey is plenty in the fields and the bees store pretty fast I take the cage out the third day after I have put the queen and cage in. If the honey is scarce the bees store very little, I wait one week before I take out the cage. I don't disturb the colony at all for one week. The bees will liberate the queen in a few days and she will lay just as well with the cage between the combs as if the cage is out. If the cage is taken out as soon as the bees have liberated the queen, then she has not commenced to lay yet, is light and wild, and will run over the combs. The bees will pursue her, and then she tries to get loose; will be surrounded, and the bees will smother her. As soon as a queen moves fast over the comb, the bees go after her. If it is their own reared queen, they want her to move slowly over the combs. If a colony is not disturbed in one week after the queen is introduced with the cage, then she will be out and laying; she is heavy with eggs, feels at home, and will move slowly over the combs. A great many of the queens that are killed when introduced, are killed on account of the colony being disturbed before the queen has commenced to lay. Queens that are shipped and have stopped laying for three or four days, are harder to introduce than queens that are just changed from one colony to another in the same apiary. The best time in the day to introduce queens when honey is scarce is in the evening, just before the sun sets; then nearly all the bees in the other colonies are at home, and if they would try to rob, night would soon overtake them.

The next morning bees that were disturbed by the introduction of the queen will be ready for a fight if strange bees should come. If the honey is plenty in the field a colony can be opened at any time in the day with safety, to introduce a queen.

I. G. Martin reported a failure by this plan—the first he ever had. His method was the same as that of Mr. Hershey.

Mr. Davis said it was a difficult matter to introduce a queen in the fall. At other times there is no trouble. He thought it was not so difficult to introduce a queen to black or Italian bees as to a hybrid colony.

Marketing Honey.

I. G. Martin read the following: "Marketing honey is of great importance to the bee-keeper. If we have but a small number of colonies we can find ready sale for our honey at home, and it is not of much importance in what shape it is put up. But if we have a large number of colonies and get thousands of pounds of honey, we must have some other than the home market. Honey to be sent to the city market, must be put up in neat and attractive shape, and so arranged as not to give the dealer any trouble. One leaky box or can may do great injury. Comb honey should be chiefly in small sections of one and two pounds each, for such packages are sure to sell. They should be clean and white; the honey should be taken from the bees as soon as it is capped, for if it is on the hives long, after it is capped, it will get dark-looking by the bees traveling over it. By having it in sections which only contains a single comb, the consumer can see what he buys. These sections can be glassed if the market demands it; but I think it will sell better without glass, because if the consumer wants to buy a few pounds of honey, he does not want to pay for one-fourth weight of glass, which he cannot eat. I think the two-pound sections are preferable for the following reasons: the bee will store more honey in them than in the one-pound sections, for by using the one-pound sections the hive is too much divided into small compartments. Besides, we can afford to sell them cheaper, and the consumer will not have so much tare as when he buys them in the one-pound sections. But if the market demands the one-pound sections, then we must furnish them.

If separators have been used (and every progressive bee-keeper should use them), these sections will be in good condition to be glassed, if glass is demanded; and they will also be in nice shape to be shipped without glass, as they may stand side by side without marring the comb. These should be packed in crates of one dozen of the two pounds, or two dozen of one-pound sections; and the crates should have glass on two sides, so that the honey may be seen.

Extracted honey has all the flavor and is in every way equal if not superior to comb honey. When the people once know what it is, and know that it is not strained honey, the demand for this article will largely increase, to the advantage of both the consumer and the producer. Extracted honey is the pure honey removed from the combs and is free from all impurities. It is not



the *strained honey*, pressed out of the comb and which contains pollen and brood, which impurities are mixed with the honey. Extracted honey should be put up in glass jars—the one-quart fruit jars are very good and will hold three pounds each, and when they are empty, they are very useful in the household. But if the market demands smaller jars, that will hold only one and two pounds each, they should be furnished and nicely labeled, and put in crates of one dozen each.

Further, we should instruct buyers that extracted honey will granulate in winter when exposed to a low temperature, and that granulation is a pledge of purity, for honey adulterated with glucose will not granulate. Granulated honey can again be brought to a liquid state by simply placing the jar that contains it in hot water until it is melted, but not long enough to bring it to the boiling point.

Sell to the consumer as much of your honey as you can, and take the remainder to the retail dealers yourself, instead of sending it to the wholesale dealers, who will sell it to the retail dealers and then charge you a commission.

J. F. Hershey thought honey put up in one-pound boxes is far more salable than when in larger packages; he, therefore, favored this method.

Mr. Davis asked whether bees would store twice as much honey in a two-pound box as in a one-pound box. The general opinion was that they would not.

Mr. Huber asked whether any member knew how to prevent robbing.

J. F. Hershey's method was to set a piece of glass sloping against the entrance. He also changed the places of the two colonies and sometimes he puts the hive depredated upon in the cellar or elsewhere.

Question for Discussion at Next Meeting.

"Should glucose be fed to bees?" Referred to I. G. Martin.

"What is the best method to prevent swarming?" Referred to Peter S. Reist.

Adjourned to meet in Lancaster, August 10, 1879.

Read before the Missouri Valley Association.

Do Bees Injure Fruit?

LIEUT. W. G. HOGARTY.

It seems to be among the first duties of a convention of this kind to discuss the relations of the honey bee to fruit.

We feel an apology might be expected from us for bringing this antiquated subject before an intelligent community. We think, however, its necessity must be apparent, and as it is never known to become a subject for re-consideration, we hope to obtain your indulgence.

The question: "Is the honey bee an enemy to fruit?" is no longer a debatable one in England, or the vine-growing sections of Germany or France, nor in Italy, that land of flowers, where fruit and bees obtain perfection in close contiguity.

In our own country, we might point to California, whose apiaries astonish the

world with their enormous productions, while her orchards and vineyards are laden with fruits in richness and delicacy the most favored part of the world cannot excel, as nearer evidence of the benefit and not the injury bees do fruit.

Michigan, next to California in her honey producing resources, as well as in the abundance and perfection of her fruit, has also only words of encouragement to the apiarist and none of censure to the bee.

We might appeal, with assurance of corroboration in our position, to every nation and every section of the globe where fruit is grown.

We might extend our inquiry back through time to that period when man began to record his thanks for blessings given, and we would find the honey bee among the first gratuities recognized. A land flowing with milk and honey is a biblical emblem of an approaching paradise.

We have been able to glean a few items from the remote numbers of our bee-journals, giving the results of the investigations of others upon the now local question.

The first article is from the pen of Mr. Chas. Dadant, of Hamilton, Ill., published in the May number of the *AMERICAN BEE JOURNAL* for 1874, page 108. He says:

"As I have cultivated bees in a part of France where grapes are the main crop, near the hills of Burgundy, celebrated for the wine produced by the culture of the sugared pineau, a grape richer in sugar than all the American kinds, I think I can bring some light on the discussion existing between Prof. Riley and my friend Kruschke.

"There has been considerable discussion between the wine-growers and bee-keepers, in the above-named district, and it is very well established that bees are unable to cut the skin of grapes.

"In order to ascertain the fact the most juicy and sugared grapes, pears, sweet cherries, plums, apricots, etc., were put inside the hive; never have the bees attacked them if they were not previously scratched."

The following is from Mr. F. Searles, of Hadley, Ill., taken from the *AMERICAN BEE JOURNAL* for July, 1874, page 148:

"One word about bees eating grapes. The past three falls have been dry with us. I have two fine vines on the south side of my house within twenty feet of my bees. Not a grape did they touch. In my garden, not forty feet from my bees, I have several vines. Two years ago I caught the yellow birds eating the grapes. They would light on a stem and pick a hole in every grape; then the bees took the balance. I put up some rags and scared the birds away. I had no more trouble with the bees. Those on my house they did not touch. I had 171 stands of bees. I have watched them closely, and I don't believe a bee ever molested a grape until it had been opened by a bird or something else.

F. SEARLES."

On page 53 of the March number of the *AMERICAN BEE JOURNAL* for 1875, we find the following:

"Some persons imagine that the bees injure fruit and especially grapes. They are greatly in error. It is useful to insist on the part taken by bees and hornets, in the injury done to our vineyards.

"The wasp pierces the fruits; to the grapes it leaves nothing but the skin and the seeds. The bee only profits by these spoils; for she usually goes from blossom to blossom, gathering honey in gardens and fields. If at times she is seen in orchards or vineyards, where she only goes after the wasps, it is only to gather the remains of the feast.

"Curious experiments have been tried, it appears: Some sound fruits were placed simultaneously within the reach of both wasps and bees; the former have soon achieved their work of destruction, while the latter starved to death."

In the proceedings of the eleventh annual convention of the Michigan Bee-Keepers' Association, held at Adrian, Mich., Dec. 19, 1877, the question before the association was, Do bees injure fruit?

Dr. Whiting said that in his observation bees do not cut their way into ripe fruit, but would work on any cracked or marred fruit.

Mr. Fahnstock said he was a fruit grower. He had sixty acres of it. His apiary was in his vineyard, and he had made careful examination for years, and he never knew sound fruit to be attacked by bees. Peaches that had burst their skins were, of course, a source of food.

Dr. Southard had sat for hours at a time to watch for the working of bees on fruit, but never saw them do it.

As these statements are corroborated by the experience of all observing bee-keepers, and are so easy of verification, we will continue them no further, but ask your attention for a few moments to a case of local importance, which embodies, we think, all there is in this question deserving of attention.

It was stated at our last meeting by a gentleman who honored us with his confidence, that owing to the injury inflicted upon his grapes the past season by the honey bee, he was only able to get \$40 for a crop that should have realized him \$100. The amount not carried off by the bees had to be marketed so early to avoid greater loss, that they did not bring within 1½ cents per pound what they would, had they been permitted to hang longer upon the vines.

The first question we meet in the solution of this problem is: What percentage of this crop did the bees actually carry away? Assuming the grapes brought 2½ cents per pound, then as 4 cents per pound would have been realized had they not been forced upon an early market, the difference between what they would have brought at 4 cents and \$100, the amount they should have brought, gives the amount the bees actually carried away, namely, 36 per cent. of the whole crop.

The next question that confronts us in struggling with this problem is, How many pounds of grape juice did these bees carry to their hives and what did they do with it?

There are two apiaries charged with inflicting this loss. They are about one mile apart, and situated in the southern suburbs of this city. At the height of the season last year one had 75 stands of bees, the other not more than 25. Within a radius of one mile of these apiaries (bees go three times that distance for honey) there are at least 20

acres of grapes in bearing. Grapes yield from 3,000 to 8,000 pounds per acre. The past year produced at least an average crop. But, taking the minimum yield, then 20 acres will produce 60,000 pounds. As we have shown, 100 colonies of bees are charged with 36 per cent. of this amount, then each hive must have increased in weight 216 pounds, which is more than a hive will hold.

I asked these bee-keepers what their bees did with this grape juice. They said they couldn't tell, for, while their bees were accused of this enormous robbery, they were losing in weight nearly one pound per day. Now, as we take into consideration that to accomplish this result, the bees must have carried to their hives at least 21½ pounds per day. As the statement mounts to the fabulous, with such giant strides, we feel the best refutation possible to make is the statement itself.

The strongest argument, however, which they bring to sustain their charge and the one having the indorsement of their highest authority is this: It is a well-known fact that bees can gnaw through cotton cloth, a vegetable substance. They are also seen by nearly every one feeding on ripe grapes; hence, the conclusion is irresistible that the bees are responsible for the destruction of the grapes. We might mention here that breaking the skin of the grape is equivalent to its destruction, as fermentation immediately sets in, when it becomes no longer fit for the table or the market.

In all the numerous, and I doubt not critical examinations which form the basis of this argument, a case is not mentioned where a bee was brushed off a grape before he had time to puncture the skin. If then, the observer has never been quick enough to find a bee working on a sound grape, we assert that there is no evidence that the bee made the puncture. But admitting for a moment that it did, we then ask why will so many bees crowd themselves on to a single grape, when the adjoining berry, equally as ripe and inviting, is passed by untouched, when it could be opened so quickly and so easily. Their argument is simply this: The bee, having the power has the will, in which we are offered a mechanical solution to a psychological question. We reply, potentiality implies volition no more among bees than it does among men.

In leaving this part of the subject we hope we have made ourselves understood. We feel, at least, we have suggested methods of investigation that must lead to the convictions we hold. We will, therefore, turn our attention to that more agreeable part of our subject, the benefit bees do fruit.

We all see the bees working on flowers. We find them panting at the threshold of their hives, their strength exhausted with an over-load of honey and pollen gathered from the flowers. The interior of their hives, the combs in which they rear their young and wherein is stored the surplus honey gathered for future use; the pollen so essential to feeding their young while undergoing the process of development from a larvæ to an insect, are dependent entirely upon the secretion of the flowers, without which the race of bees would almost immediately become extinct.



Is it possible, then, that nature, so careful in her adjustments of reciprocal obligations, has forgotten the flowers? Is there no possible benefit, we ask, derived by the blossom from the visits of the bees? We bee-keepers unite with botanists and all other lovers of nature in affirming, there is.

All flowers are composed of two essential parts—stamens and pistils. The stamens bear the anthers which contain the pollen. The pistils produce no pollen, but have a waxy substance in its stead called the stigma, which receives and retains the pollen. This pollen must unite with the stigma of the pistil, else there can in no possibility be fruit. The stamens when they shed their pollen, like our drones when they have served the purpose of their creation, immediately die. The pistils, unlike the stamens, when fertilized live and develop into fruit.

Wyandotte Co., Kan.

Read before the Central Michigan Convention.

History and Use of Bee Smokers.

PROF. A. J. COOK.

The fear of bees, and the dread of their sting, deters many from engaging in apiculture, who would otherwise find in its pursuit both pleasure and profit. Could these same parties know how easily bees may be subdued, and how, with experience, all fear would vanish to nothingness, they would no longer stand aloof, but would make bees their companions, and the apiary their place of business. I suppose it was such thoughts that led the officers of our society to urge me to write an essay on the history, and use of smokers in bee-keeping.

The first mention I find of smokers, and smoke to render the bees tractable, is from Columella, who, as Mr. Langstroth once said to me, writes not as the narrator of others' experience, but as the practical man. In his Lib. 90, 15, in giving directions for securing the wax and honey without injury to the bees, he says: "Have also ready an earthen pot, with live coals in it, and with a funnel-shaped cover, through which the smell of dried dung may be conveyed to any part of the hive." Thus this wonderful man, at the very dawn of the Christian era, used smoke, and had invented a better smoker than the old pan of chips still used by some bee-keepers of our country.

Du Hamel, of France, as we learn from Wildman, p. 184, used a roll of rags to quiet bees in 1754.

Reaumer, English translation of 1764, p. 382, speaks of raising the hive, when the smoke of a burning rag is introduced.

In a quaint old book, by John Mills, F. R. S., published in London in 1766, on p. 80, the author speaks of a pot of live coals, and of burning linen rags. On page 99, of this work, the dust of the fungous puff-ball is recommended for use, in stupifying the bees. While on page 111 is found the earliest reference, I have seen, to the use of a bellows for smoking bees. This was used by Madame Vicat, a very learned Swiss lady in 1764. She used this implement to blow the smoke made by burning linen rags into the hives.

In a very interesting work by John Keys, "The Ancient Bee Master's Farewell," published in 1796, a special vessel or box for fumigating bees is described and figured.

In Bevan's admirable work on "The Honey Bee," which appeared in 1838, on page 136, there is described and figured a fine tube to be attached to the nozzle of a bellows. Here, then, we have the essential features of our present admirable smokers, only very clumsy in form. Tobacco is recommended for fuel.

In the third edition of Henry Tailor's "Bee-Keepers' Manual," London, 1849, there is figured and described on page 98, a similar apparatus, except that the bee-keeper's lungs are to form the bellows. He recommends puff-ball or devil's snuff-box for fuel.

John Pettitt, London, in his price-list of 1864, illustrates a bellows smoker of the Bevan pattern.

Von Keine, in his work of 1856, printed in German, wishes nothing better than tobacco and a good pipe. I regret that he has so many followers.

Debeauvoys, in his work of 1853, printed in French, figures and describes a Bevan bellows smoker; and advises his readers to burn old rope, dried cow manure, old hay, or nut shells.

Hamel, the present editor of *L'Apiculteur*, in the second edition, 1861, of *Cours Pratique d'Apiculture*, makes the same recommendation as does Debeauvoys. F. Bastian, in his work, Paris, 1868, does the same, and praises rotten wood for fuel.

Langstroth, in his first edition, 1853, states the now well-known fact that bees full of honey never volunteer an attack. That fright causes them to fill with honey, and that smoke will alarm them. He pronounces against the use of tobacco, and recommends cotton cloth. Sprinkling with sweetened water is also recommended to quiet bees. Quiet, gentle motions about the apiary are stoutly urged. In succeeding editions rotten wood is commended for fuel.

Mr. Quinby, in his work, recalls the old Tailor tube in which tobacco or rotten wood may be burned and the smoke blown through by the bee-keeper.

In 1874 Mr. Quinby figured in the March number of the *Bee Keepers' Magazine* an improved bellows smoker. This improvement simply consists in changing the fire-tube to the side of the bellows, making the latter smaller and omitting the handles. Yet it was a mighty stride in advance. It converted an unwieldy, impracticable implement into a convenient, serviceable and almost indispensable accessory of the apiarist's apparatus. More than this, if Mr. Quinby had not thought of this, very likely we should still be without the valuable bellows smokers which are such valuable adjuncts to our aparian work of to-day. Mr. Quinby was not only a master of apiculture, but he had a great heart which endeared him to all who knew him. Hence, it was characteristic of the man to give his valuable invention, from which he might have realized a large profit, to the bee-keeping public. In his first announcement he says: Make or buy one, and you will be surprised at the apparent improvement in the disposition of your bees.

It soon appeared that Mr. Quinby's smoker was too frail, too liable to fall over, possessed too small a fire-tube, and lacked draft.

Mr. Bingham, two years after Mr. Quinby, gave us an improved bellows smoker, bringing before the bee-keepers a smoker which greatly surpassed the Quinby. The bellows was smaller, the form such that the implement would stand firmly. The fire-tube was larger, the general style and strength were all that could be desired, while by breaking the connection between the bellows and fire-tube, a constant draft was secured which kept the fire alive, and made it possible to use even sound hard wood for fuel. Because of this even, open draft and the great strength and admirable finish of this smoker, it stands to-day preeminently at the head; indeed, it seems hard to conceive how it can be improved. Mr. Bingham has secured a patent on his smoker, and reserves the right to make all that are sent out. Here, then, is one patented article that should be in every apiary.

In 1877 Mr. A. I. Root made a smoker embodying the direct draft principle of the Bingham, but from its awkward form and the inconvenience of handling it, it can never win favor where the Bingham and Quinby are known.

In 1878 Mr. L. C. Root, by perforating the tube leading from the bellows to the fire-chamber and by other improvements, greatly changed for the better the Quinby smoker. Yet it still lacks the free, open draft of the Bingham, and after a time is less ready to burn, and troubles more by being dead just when the bees are most alive.

Early the present year, John G. Corey described a cold draft smoker which is now made by A. I. Root. Mr. Bingham has by a simple addition made his capable of being changed into a cold draft smoker. In those smokers the air driven by the bellows does not pass through the fire, but around it. The advantages are cold smoke, a cool fire-tube, and less danger of blowing out fire among the bees. The danger is that the generation of smoke cannot be made at once equal to the fury of a hive of intractable hybrids.

For fuel to be used in fumigation I prefer wood in the first stages of decomposition. This makes less heat, burns longer, and is more readily prepared.

To use the smoker, first blow a little smoke, three or four whiffs, into the entrance, then uncover the bees, and blow in at the top as long and as often as it is required to make the bees quiet. I would advise using smoke only when needed. When the bees are gathering rapidly they seldom sting, and as smoke makes a commotion and interrupts their labors, it is but slightly detrimental.

Albany Co., N. Y., Convention.

The regular meeting of the Albany County Bee-Keepers' Association was held at Clarksville, May 6th. It was well attended, and had a good display of Italian bees, comb foundation, knives, boxes, smokers, etc.

The meeting was called to order by President H. W. Garrett. The reports of the

Secretary and Treasurer were received and approved.

The report of committee on constitution and by-laws was adopted. This changed the same so much as to meet the requirements of the Association, with an addition to the constitution, called "Article X."

It can now offer premiums for the best display of productions of the apiary. The name of the Association was changed to "The Albany County Bee-Keepers' Union Association." Bee-Keepers from adjoining counties can now join the Association.

In the afternoon the President read the following address:

*"Ladies and Gentlemen:—*It is now one year since the organization of this Society, by the bee-keepers of Albany county, and this is our third convention. If it has not been very instructive, it has been most pleasant, and much enjoyed by me; and I trust that in getting better acquainted with each other, our common interest as bee-keepers has been advanced.

"Without education and practice we cannot expect to become practical bee-keepers; to get this is the object of this society. We are making some headway by increasing the circulation of the bee literature of the day, and the adoption of movable frame hives and single comb boxes. I hope that all bee-keepers in this and adjoining counties will unite with us. What most of us lack is a practical education in bee-keeping.

"To illustrate, I will take Albany city as a home market. How many present have had a similar experience to the following: 'What do you ask for honey?' 'Fifteen cents.' 'Oh, you are too high. Yesterday a man had a whole load, and asked only 10c.' Then another and another comes along; they have all seen that load. Perhaps the last man wishes to purchase, if you will take 10c., or give it to him. 'What do you ask for honey?' 'Fifteen cents.' 'I could have bought a load yesterday for 10c.' 'What shaped boxes?' 'Just like yours; about so big square.' 'How many combs?' 'I don't know, but the honey was as good as yours.' By this time our patience is about exhausted. By being often stung, we partake, more or less, of our pet's nature, and if we had their weapons they would catch it.

"Well, we are here with our honey, and want to dispose of it, so we go to some grocery. Our trouble commences anew. 'Do you handle honey?' 'No.' 'Don't you think you could sell some of this?' 'That is nice; but some 3 or 4 weeks ago I purchased some, and my store was full of bees, hornets and flies, and it drained all over everything. I don't want any.'

"Being industrious and persevering we try again. 'Do you sell honey?' 'Yes, sometimes.' 'Do you want any to-day?' 'What price?' 'Fifteen cents.' 'I only paid 10c. for that.' 'But mine is in better shape for retail.' 'Yes; but I must dispose of what I have on hand, and by that time it will be lower.'

"So we continue with like results, and finally leave it at some store, or take it home to give away. Now we have found out two things: That a good many grocery-men will not purchase honey; while



others expect in future to purchase at a lower figure. This is caused by so many bee-keepers putting their honey in market before it is time, or before there is a market for honey.

"Now, to be practical, we must sustain the Association, and there discuss the different modes of the more advanced bee-keepers, and the exhibits of different apian supplies and how to use them, and adopt the improvements, especially the frame hives and single comb boxes. and read the *AMERICAN BEE JOURNAL*, or *Magazine*."

The report of the committee on exhibits recommended as worthy of notice Hetherington's comb foundation, J. E. Moore's "perfection honey box," Root's and Bingham's smokers, etc.

The following officers were elected for the ensuing year: Aaron Snyder, President; W. S. Ward, Vice President; M. J. Garrett, Secretary; James Markle, Treasurer.

STATISTICAL REPORT.—The whole number of colonies reported is 1,210; the loss reported being 394. The fatality among those buried was less than those wintered otherwise.

The next meeting of the Association will be held on the second Tuesday of October, 1879, at the city of Albany, N. Y.

M. J. GARRETT, *Sec.*

AARON SNYDER, *Pres.*

Read before the Muscatine, Iowa, Convention.

The Management of Bees.

BY REV. E. L. BRIGGS.

Mr. President and Gentlemen :

I am here, at the request of your honorable secretary, to speak upon the subject of "Bee Culture," and of the means whereby this useful and very interesting branch of human industry may be made, not only a source of life-long amusement and recreation to the stalwart and able-bodied man, as well as the delicate woman, in town or country; but also a source of pecuniary profit equal to, if not superior, to any other investment, according to the capital employed, in any agricultural or mechanical pursuit.

And I affirm, at the beginning, that this can be done, for I know whereof I speak. When yet a boy of only ten years of age, I have often left my companions at play, and taking my position by the side of a colony of bees, while they are at work, I have there sat and watched for hours at a time, determined to get a glimpse of the "old king-bee." And I have never ceased to inquire until I learned, so far as I was capable, the bee language, and all else inside a hive. There was something intensely fascinating to my mind then, concerning the mimic kingdom of workers, drones, guards, nurses, house-keepers, queen, etc. There is still sweetness in the honey and the honey comb, but even more in the wonderful demonstrations of the spirit-taught intuitions and instincts manifested in the marvels of the untaught skill and knowledge revealed in the wormanship of a colony of bees.

And I hold that where the palate can be thus gratified with the most delicious of sweets, and the pocket can be replenished with more than 50 per cent. net profit annually, and the mind can be likewise fed with all the demonstrations concerning the marvels of instinctive knowledge and action, and the heart, too, can be gratified in caring for and nurturing our pets, all at the same time, by cultivating the "busy bee;" this subject is worth a hundred fold more attention than is now given to it by farmers, and, indeed, by all other classes, of women as well as men, and even children, too.

But the first question which every American asks is, "Does bee-keeping pay?" I answer, yes. In skillful hands, every colony wintered will yield a swarm annually, in four cases out of every five. If the colony is worth \$5, here is \$3 profit for each swarm at once, allowing \$2 for the cost of the hive. The two colonies together ought never to yield less than 25 lbs. of nice box honey, which at 10c. per pound will be \$2.50 more. Here is 100 per cent. profit, and 50c. surplus to pay for the care of the colony.

"Is this a real fact?" says one. "Why, if that's the case, I must get some bees, for in order to make \$3 on a sheep, or a hog, I have to feed it twice every day, all the year round, on that which costs money, and then only turn all this labor and food into money at a very slight per cent. of profit at best. Therefore, I must get some bees."

So the man gets a colony or two at the first auction,—black bees, of course, because he can get them cheap. He takes them home in September, sets them down somewhere until he can fix up a good place, lets them set a month or so, and, by-and-by, when passing them on some cold rainy day, he says: "I declare! those bees will all freeze, if left out there in the wind." So he sets them up; it may be in the wood-house loft, on the north side of his dwelling, where the sun cannot strike them until set out again some time next spring. In this situation the combs remain filled with frost and ice-cold honey all winter.

Some day when the weather is mild and the sun shines warm, he sees a good many bees flying around the old place where the colony first stood, and he remarks: "I wonder what the bees are all doing there? O, I see, they are gathering up the scraps of comb which fell out when they set there." But he sees a good many bees lying around which seem to be chilled to death. Spring comes at last, and he puts the hive out on the other side of the house from where it stood in the fall.

The next warm day he sees thousands of bees pouring in and out of the hive, with a hum loud enough to be heard all over the lot. "Wife," says he, "I tell you those bees of mine are getting honey to-day like everything. Did I not tell you that I was going to make more than 100 per cent., without hardly ever having to touch them?" The wife nods and smiles as she looks out, and says: "Why, yes; they are at work finely!" Two or three days after this, he no longer sees the bees going in and out as before, so lifting the cover he finds the hive desolate,—honey all gone, the combs torn and ragged, as though the mice had been

gnawing all over their surface. "There goes the 100 per cent. story, just as I thought!" exclaimed the disappointed man. "There is no certainty in bee-raising, I see, and my money is lost; and if there is, I have no luck in that way!"

I need not tell you, gentlemen, what the cause of failure was, for you saw it at the start. But to such as are not posted, if such are here, I would say, get the best at the start, which the market affords. Don't pay a fancy price, but be willing to pay a fair price to a reliable bee-raiser, and such a price, too, as will enable him to breed the best. Put him upon his honor, and tell him to give you a first-class colony in a good hive. Never buy a scurvy, woods-bred, long-snouted pig, at an auction for a dollar, to breed from, when you can get a Poland-China, Berkshire, or Chester-White for \$10; if you do, you cheat yourself abominably!

In the next place, by all means set your colony, when you bring it home, where it is to stand, and stand forever. Don't move it at your peril, until you have fully learned how and when you can do so without loss. All this man's bees from the wood-shed loft went back to the old place, and perished as fast as they came out on the first warm day, until they dwindled to about nothing. There they were destroyed, and his neighbor's bees came and cleaned out the honey for him in the spring, when he thought the bees were gathering honey by the gallon for their owner. Don't move your hive, then, at your peril, even to the extent of a few yards, without the advice and direction of a bee-master.

In the next place, if your bees are wintered out of a warm repository, leave them on their summer stands, and see that the sun shines upon the hive at least a part of the day, every sun-shiny day, all winter. This, too, is imperative, unless the hive is well protected from frost. Do these things, and you will have luck with your bees.

Why, every woman could tell you that, if you picked up the old setting hen, nest and all, and moved them ten yards away. The hen would go back to her old place, and her nest and eggs would be forsaken; and you would have poor "luck" in raising chickens. So, if you treat your bees in such an unnatural manner you will have "bad luck" with them, too.

Another cause for bad luck in bee-keeping is the mania for patent hives, with beginners. Last fall I sold a neighbor three first-class Italian colonies, and gave him directions for wintering them. They were in the very best condition; plenty of honey, and populous in numbers, and located in Langstroth's hives of the very best material and finish. I called round at his residence about the 10th of March, and, lo and behold! the bees were all out upon their summer stands, and every one transferred into "bran new Mitchell hives"—the patent of which he had hastened to buy during the former part of the winter. I took off the cover of one and lifted out a frame. I found each frame divided into six compartments, and these were filled promiscuously with drone-comb, store-comb, and brood-comb, just as the shape of the broken pieces would best fit together.

I asked, "Why did you transfer your bees into these hives?" "O, because I wanted to dispense with boxes or small frames on top of the hive, and have all the honey stored inside of the main hive, for they will gather so much more honey this way, and it is so much easier to take it out when the frames are filled." I offered to buy his old Langstroth hives, but he had cut them up or thrown them aside as useless lumber. He had been dividing his colonies to form nuclei for raising queens, for two or three weeks; and he said to a friend, as I was told last Saturday, that he thought he should make two or three colonies by dividing some time next week. The profits, and expense, and labor have been slightly from, rather than to the owner thus far, but the Mitchell patent when it begins, pours floods of honey into the lap of the owner; but I fear it will be in the sweet tears of sympathy from his loving wife, as she condoles with him over his sad disappointments and losses in bee-keeping.

But a child, or a beginner, will and must put his hand into the flame, just to see how the smart of a burn feels, and no warning or advice, I suppose, can keep him from it. So, probably, every beginner in bee-keeping, must run his course of patent rights, just as the child takes the mumps, the measles, and the whooping-cough. Get a good hive (the Langstroth is the best), and stick to that form, when once decided upon. Thus your hives being all alike, the frames will be interchangeable.

Don't imagine that two or ten colonies will make one rich, or that they will greatly add to the annual income. You cannot get rich on two sheep, two hogs, or two hens; nor would you, if they should give as much net profit as bees. Even the eggs of two hens are a great convenience. Ten dollars' worth of honey to eat or to sell, is worth caring about; and the mother, wife, or daughter can superintend this department, and not only have the honey, but the pastime and pleasure of this out-door exercise, so promotive of health and comfort.

Get a work on bee culture; "Langstroth on the Honey Bee," "Quinby's Mysteries of Bee-Keeping," "Newman's Bee Culture," or "Cook's New Manual of the Apiary," will either of them give the beginner all the direction he needs, if he will rigidly follow them. Then post up, and never touch the bees without first consulting your Manual.

But I am reminded that I am addressing a convention of bee-keepers, and not beginners; and you are here to receive and impart some hints or truths, whereby a person can get the most honey and the most money out of his bees. Three things are necessary to the accomplishment of this result:

1. The culture of the highest possible grade of bees, considered—

1. As to size and strength, in order to avail themselves of the red clover harvest, so abundant in this country.

2. As to their industry, as honey gatherers.

3. As to their being in the highest degree prolific.

4. As to their being docile in disposition.

5. And what would mark them as distinct in variety, viz: a bright yellow color.

I claim to have been the first one, who,



through the press, advocated the feasibility of improving the honey bee to meet all the above points. But "dollar-queen" men launched their thunderbolts at me through the next number of the BEE JOURNAL, exclaiming against the idea that there could be any higher grade of bees than those which they were sending out to their customers for one or two dollars each.

You can all realize that not all the offspring of the highest strain of horses are equal to the best. It is on this account that selections are made, from which to breed, and persons are willing to pay fancy prices for such selections. No ordinary bee-master, however, can devote his attention to this culture, and cultivate especially for this object, without a year or so of time and at considerable expense. He must visit a large number of queen-rearing apiaries, make his selections among tested queens, then their offspring in turn, and then select from the best again, until the attainment of the desired end.

An apiary on the joint-stock plan might be formed by, say twenty apiarists, each supplying five colonies, and \$25 to pay an experienced apiarist to take care of the bees for the first year. After the first year the apiary would pay its own expenses and a handsome dividend to each stockholder, into the bargain. By this means, or some other which might be devised, the best possible stock might be procured. This is not a visionary scheme either, for twice in my life I have had stock which worked freely on red clover, and in one season when no other bees gathered any surplus honey, one colony gave me 48 lbs and the other 24 lbs., while the blacks and hybrids, in the same year, gave none. The queens of these colonies were mother and daughter.

The four-banded worker idea, suggested by me, was ridiculed, in the JOURNAL, as a myth, though the fourth yellow band was just as bright, though not as broad, and just as perceptible, when the bee was filled with honey, as were the others. Indeed, the whole abdomen to the tips had a yellow cast. These bees worked rapidly on the second crop of red clover, that year. Now, what has been done once, can be done again. The first of these queens met the three first, and most important of the five points named above, in a measure, and the latter was an approach to all five. But this ideal can only be realized by the untiring energy of a first-class apiarist, with first-class circumstance. Were I that man, I should like to give to the American apiarists the ideal honey bee in the next ten years. Who will be the man? But you, gentlemen, can all breed your own queens, as you might do from your best old colonies, and thus the survival of the fittest will continually be realized, in a degree.

II. The next thing needed, is to lengthen out the honey season, by increasing the pasturage in those intervals which take place after white clover and linn blossoms are gone and the blossoming of the golden rod and buckwheat. The latter can be sown in early June, mustard at any time in the spring, and also Alsike clover, sweet clover (melliot), and rape can be sown at such time as to bloom when this honey

drouth occurs. Let the shade trees be of such variety as will produce blossoms and honey also.

III. The third thing necessary, is the gradual, but not too rapid increase of stock. This can be easily accomplished, where the greatest results are desired in honey, as well as swarms by the various modes of artificial swarming, by making one new colony from two old ones, leaving all the bees in each of the colonies in an empty hive, upon the old stands, and uniting the brood-combs of both old and new to form a new strong colony upon another stand. After the three days, put the top boxes or frames upon all three, and they will give you the greatest product of honey of any mode I have yet tried, unless they can be kept from swarming at all. When the young brood are out of the combs, leave enough for the new colony to fill the hive, and return the rest to the other two, giving half to each; putting drone-comb, if any, next to the walls of the hive, and the brood-comb in the center, among the new-formed combs, and they will be speedily filled with brood again.

IV. The last topic which I shall discuss, is that of wintering and springing bees. Twenty years of unvarying success is, certainly, enough to show me that the cellar or an equally, dark repository, is the only preservative against loss in carrying bees through the winter, from November to April. The reason bees perish in cellars is because they are put in damp, with melted frost in the combs, and because the temperature is kept down near to the freezing point all winter. Keep the cellar at from 35° to 45° all winter, or else make it warm all day and night, once in four weeks, by keeping up a good fire in a stove for that purpose. Get the lectures on "Wintering Bees," presented at the Centennial, at Philadelphia, published at the office of the BEE JOURNAL, in Chicago, and they will give you the requisite information. Thus you will save your bees, and they will give you both honey and money, to the greatest extent.

Central Ohio Convention.

This Association met at Washington, O., May 14, President N. Julian in the chair. The minutes of last meeting were read and approved.

A discussion on "how to avoid losses in wintering," was the order of the day.

Mr. Rockwell said that bees died from the poor quality of the honey gathered late in the fall. The remedy is to extract such, and give them that gathered earlier in the season. Fall honey will answer for spring feeding.

Secretary Reigel said that some colonies died from weakness, they being unable to keep up the natural heat in the hives. Many died thus with plenty of honey in the hives.

Mr. Ustic said that newspapers placed over the frames in winter retained the heat and absorbed the moisture. He used them on his hives.

The question selected for discussion at the next meeting, was "Preparation of Honey for Market."

N. JULIAN, Pres.

S. D. REIGEL, Sec'y.

Northeastern Wisconsin Convention.

Assembled, as announced, at Hartford, May 27th and 28th, A. H. Hart, President, in the chair. The Secretary, Mrs. Frances Dunham, gave a short report, which was accepted. Many members were admitted, and the following officers elected for the ensuing year: President, H. P. Sayles, of Hartford; Vice Presidents, Geo. Grimm, of Jefferson, Judge Grote, of Mauston, A. A. Potter, of Eureka; Secretary and Treasurer, Mrs. Frances Dunham, of Depere. Convention then adjourned till 1 o'clock.

The retiring President, A. H. Hart, made a short address, and President Sayles took the chair. After reading an article written for the Association, the discussion opened up on "The Purity of the Italian Queen."

Mr. Sayles said the importing of queens should be discountenanced, or if we bought such, they should be thoroughly tested, and the price fixed accordingly. Mr. Guenther said it is impossible to raise pure queens, while farmers raise so many black drones. One hive with drones is enough to control fertilization for two miles in diameter.

On the subject of "Comb Foundation," Mr. Place said all are willing to admit that it is the best thing used.

It was suggested that foundation should be inserted in the afternoon, as it then had the whole force of the bees to work at it all night, and was partially drawn out before it had to stand the heat of the sun.

Mr. Guenther wintered 600 colonies, and only lost 8; gave, by request, his mode of wintering. Much interesting discussion followed.

Mrs. Dunham brought before the convention a matter, in which she took up the present condition of the Rev. L. L. Langstroth. She had never talked upon the subject with a bee-keeper who did not regret it most truly. He had been decorated by societies all over the world; honors heaped upon him, and yet he was suffering now, on account of his generosity to us. She asked that the matter (which was received with enthusiasm) might lie over till to-morrow afternoon, before action was taken upon it.

The convention then adjourned, after deciding to hold an evening session, which passed off agreeably.

SECOND DAY.

Mr. George Grimm read an able article, which was listened to with interest. It was moved that the paper of Mr. Grimm be accepted as the opinion of the convention, and that a vote of thanks be given him. Unanimously carried.

"Purity of Queens" was again discussed. Mr. Guenther said the actions are a better test than the three bands. Italians will cling to the comb; the general idea is that "Italians are hybrids" anyway. All say there is no better test than three bands, and then it is necessary to breed to industry, prolificness and docility.

Mrs. Orvis wished a remedy for swarming out.

Mr. Grimm secures the queen, clips her wing, hives the bees, gives a card of young bees and brood in the center of the hive. It is a certain remedy for swarming out.

Mr. Hodgson said that any old bees will swarm out; they seem not to care for the brood.

AFTERNOON SESSION.

A committee on exhibits was appointed, consisting of F. E. Turner, of Sussex; Geo. Grimm, of Jefferson; G. H. Pierce, of Winoski.

Mrs. Dunham asked to have the matter pertaining to Mr. Langstroth brought before the convention for action, and explained briefly her great desire that something might be done. She read a few words from a very touching letter, from his daughter in answer to her request to be allowed to bring to the minds of all kind-hearted friends, the injustice that had been done him, and the hope that it could be remedied. The extract was as follows:

"It would relieve my dear father from much of the burden, which in his age and feeble health, presses very heavily upon him, and we, who know all of his disinterested labors for the bee-keeping public and his meager returns, feel it would be but simple justice."

The matter was received with the utmost enthusiasm by the members of the Association. Mr. Geo. Grimm, in a short but eloquent speech, reviewed the main incidents of Mr. Langstroth's life, and showed the great benefits which had been derived from his labors and wonderful inventions, and said: "There is not a bee-keeper in this country who would fail to respond, if a monument was to be erected to his honor."

Mr. H. P. Sayles followed in a few emphatic remarks.

Mr. Hart moved, and it was unanimously carried, "that this convention appoint a committee of three to take charge of getting funds for Mr. Langstroth, to show our gratitude and respect for him."

Mr. Geo. Grimm moved that the President appoint a committee of three, who should correspond with the secretaries of all State Societies, and proceed in the matter with all due diligence, according to their best judgment.

The following were appointed as such committee: A. H. Hart, Appleton; Geo. Grimm, Jefferson; Mrs. Francis Dunham, Depere. Mrs. Dunham was appointed treasurer.

The whole convention resolved itself into a committee, for the purpose of raising funds for Mr. Langstroth.

The committee on exhibits reported as follows, which was adopted: We regard the dove-tailed section boxes of J. C. & H. P. Sayles and of Lewis & Parks as of good material and workmanship, especially the "Lewis Section" honey boxes, and recommend them to the use of bee-keepers generally. The comb foundation, made on the Dunham foundation machine as superior on account of the depth of side walls or cells, and the shape of the base of the cells, and highly recommend it for general use. The foundation machine, invented by Mrs. Dunham, is made of substantial material, and is of superior workmanship.

Mrs. Dunham's hive indicator, a cast-iron block, marked on the sides, to be laid on top of the hive to show at a glance the condition of the colony; Bingham & Hether-



ington's honey knife; Crandall's frame; Sayles' No. 1 hive; Sayles' cold-blast smoker and extractor, and the Parker chaff hive were worthy of recommendation.

The convention adjourned to again meet on Tuesday and Wednesday, Sept. 2d and 3d, 1879, at Whitewater, Wis.

FRANCES DUNHAM, Sec.

H. P. SAYLES, Pres.

[These proceedings will be published in full, with the papers read and discussions, in pamphlet form. Those wishing a copy of the pamphlet can procure it of Mrs. F. A. Dunham, Depere, Wis.—ED.]

Southeastern Iowa Convention.

This convention was held at Mt. Pleasant, Iowa, May 31st.

The Secretary was directed to purchase a book for his use in keeping the records. Sixteen members having signed the constitution and by-laws paid their yearly dues of 50c. each.

A resolution was adopted, asking the County Agricultural Society to give them a special place to exhibit aparian products and machinery, and also hives of working bees properly protected. They also adopted the following as a premium list:

Best box of honey, \$5.00; 2d best, \$2.50.
 Best show of beeswax, \$1.50; 2d best, 50c.
 Best colony of Italian bees, \$5.00; 2d best, \$2.50.
 Best colony of native bees, \$5.00; 2d best, \$2.50.
 Best honey extractor, \$2.00; 2d best, \$1.00.
 Best bee smoker, 50c.
 Largest and best collection of bee implements, \$5.
 Best bee hive, \$2.00; 2d best, \$1.00.

First question.—"The relative merits of Italian and native bees?"

The discussion commenced as to the relative merits of Italian and native bees. It was claimed for the Italian that they were more docile than other bees; that they were healthier and stronger; that they started earlier in the morning and came home later; that they visited and extracted the honey from flowers that the common black bee were never seen upon, the reason being that the Italian having a longer proboscis could reach the honey in flowers the black bee could get nothing from. It was said the black bee never visited the red clover while that was one of the favorite resorts of the Italian bees. The red clover being one of the best secretors of honey. Most of the speakers are keeping both kinds, and the general opinion seemed to be that there was very little difference as to the amount of honey gathered.

Mr. Thomas favored the Italian; they were very seldom troubled with moths. In reference to the amount of honey, the place where the hive stands has an influence on the amount of honey gathered. It is desirable to place it so as to have the morning sun strike it, and to have it protected from cold winds. In such a place the bees start earlier in the morning.

Mr. Harris said that he did not find that the most vigorous workers gathered the most honey, and that view was generally concurred in. The shape of the hive and its condition often has more effect on the amount of honey than the extreme working

of the bees. The amount of honey gathered depends on the condition the bees are in when they begin work in the spring. Many of the colonies come out in the spring with only a small number, and those are likely to be in a feeble condition, so it takes them a long time before they have an efficient working corps. The notion that there is any difference as to size or vigor between the Italian and black bees is all a myth.

In response to a question, Mr. Dougherty said he did not consider early and often swarming any advantage, if the amount of honey was the object; bees never swarm so long as they have room to work.

Mr. Ghost inquired as to the cross or gray bee, made by giving black bees an Italian queen. These kind of bees had no friends in the meeting.

Second question.—"What killed the bees last winter?"

One cause was the snow. In a sunny day, where hives stand in a warm place, the bees come out and fly till they get chilled, then they fall into the snow and die; a few sunny days will so decimate a hive that the few left do not generate heat enough to keep them warm, and they die out.

Another cause is imperfect ventilation. Bees in the winter throw off a perspiration which, if it has no chance to escape, wets the bees; that being an unnatural condition it weakens them, disarranges their digestion and produces what is known as cholera. In a natural, healthy condition the digestion is so arranged that the matter excreted from the bowels is of a dry powdery nature, devoid of smell and not injurious to the bees or honey. When disturbed by moisture or any other cause, this instead of being dry and inoffensive becomes watery and offensive, and is poisonous to the bees. This same effect is often produced by moving the bees into cellars or other places where the temperature is not even. When bees are warm they overeat, and when cold suddenly stop eating, and this disarranges the digestion.

Mr. Dougherty said that the hives of bees, when they are housed either in cellars or houses made for the purpose, should be carried out at least once, on favorable days, during the winter, so that they can fly out and clear themselves. Bees have been kept 5 months in rooms that have a cool temperature, and came out all right.

Mr. Prince said his method of ventilation was to fill his small boxes with dry hay and set them over the holes in the top of the hive—every few weeks during the winter he changes the hay, always finding the hay wet. The advantage of this is that the hay keeps the hive warm as well as takes up the moisture.

To keep bees from flying out and dying on the snow, Mr. Dougherty said he had succeeded best by raising the hive about an inch, letting the cool air run through the hive. This also ventilates the hive and bees nicely.

After some desultory conversation among those present, it was decided to adjourn to meet again in Mt. Pleasant, Iowa, on Saturday, June 14th, 1879.

H. D. WALKER, Sec.

Read before the Central Michigan Convention.

A Factor in Wintering.

S. D. NEWBRO.

I think there is an important factor in the wintering of bees that has never been boldly presented to the consideration of bee-keepers—at least, I have never read or heard any person use language to the effect—that is, that a colony of bees make 140 barrels of steam during the time they are in winter quarters. When bee-keepers become cognizant of this fact, they will turn their attention more to making their hives of porous wood or other porous materials, and to packing an abundance of porous or absorbing substances around the bees—means to conduct the steam or vapor away from the hive as fast as they make it, and radiate it to the outer atmosphere through the pores of the hive; and with the knowledge that a good coat of oil and lead as effectually prevents the escape of vapor through soft open-grained wood as if incased in India rubber, they will paint their hives less.

The evidences that we should consider that a fair, strong colony of bees will make 140 barrels of vapor, are founded on the statements made by writers on bee-culture, and by the current authority of brother bee-keepers, that it is not entirely safe to put a fair, strong colony into winter quarters with less than 30 lbs. of honey, and for an extra strong colony 40 lbs; and, though many colonies winter on a much less amount of honey, yet there is no question but that other colonies during long winters consume 30 lbs. and have to be fed in the spring.

The visible and invisible manner in which these 30 lbs. of honey change form or disappear in the process of digestion are chiefly these: First, The visible, in evacuations when the bees are permitted to have "a fly." After 90 or 100 days' confinement, if the day is warm and nice, we contemplate that almost every bee will take an airing, and if there be snow on the ground we see thousands of yellow specks. If these could be collected and weighed, we know the weight would only be a few ounces. If the hive were weighed immediately before and after taking "the fly," we might speak more definitely as to the only visible thing. Now, as to that which becomes invisible. I must be excused for not being able to speak with scientific accuracy about the chemical constituents of honey. I have not seen any statement, in any book on chemistry or medicine, of the analysis of honey into primitive elements. Medical works seem to regard it about the same as sugar-house syrup, only that it is flavored and scented with the aroma of flowers, and there is such a difference that there cannot be a standard for honey, as there is a standard for sugar with which it is related. Refined dry sugar (so-called) contains 43 per cent. of carbon and 57 per cent. of oxygen and hydrogen—equivalents of water. If such sugar contains 57 per cent. of the element of water, most persons will be willing to concede that honey must contain 65 to 80 per cent. of

water according to its age and limpidity. Provided average honey contains 70 per cent. of water, then 30 lbs. will yield 21 lbs. of water and 8 lbs. of carbon and effete matter.

In respiration the bees absorb oxygen from the air. Oxygen has weight, so, in point of nicety, the weight of the honey is not all that the bees consume. The oxygen that is taken from the air unites with the carbon and evolves warmth, while the union makes the deadly carbonic acid gas, which is harmless to the bees, for it is heavy and falls to the bottom of the hive and flows out at the lowest aperture. As the carbon is taken from the honey in the above process, the water is left, and the heat starts it off as vapor, and it would go up and unite with the rain clouds if there were ample facilities to filter through porous substances, without choking and being held back till it collects as sensible moisture on the comb and all the interior of the hive, circumscribing the power of the bee more and more till finally they die of dampness, and that, too, in cellars that never freeze. Sugar diluted so as to raise the per centage from 57 to 80 per cent. of water makes a food for bees that many bee-keepers think nearly as good as honey, and certainly sometimes better than late-collected honey. If sugar diluted with water makes it the equivalent of honey with the aroma of flowers omitted, it corroborates the estimate of 70 per cent. of water, or that 30 lbs. contain 21 lbs. or pints of water.

Those who made the subject of steam and steam power, matters of study and experiment, have demonstrated, times without number, that water in being converted into vapor expands 1,700 times. A convenient and good authority which may be consulted can be found at every drug store, is the United States Medical Dispensatory. The 21 lbs. or pints therefrom will make 35,709 pints of vapor, rather over 140 barrels for 120 days between November and April. But call it a barrel a day, and the question will be, How to make hives that will permit a barrel of vapor per day to filter through and radiate from the hive. I have essayed to make a bag hive with the foregoing ideas in my mind, and I have placed this hive before the convention for examination and study.

It is my desire that it may be called the bag hive as a contra-distinguishing name that will prevent it being confounded with any other style of hive, a matter that will be of much convenience, provided the hive has merits to rise into favor before the public as a wintering hive. It is the smallest and lightest form of hive for carrying in and out of cellars, and probably the best invention for out-door wintering by placing in a box or summer hive and packing chaff all around the cushion, and thus abundance of absorbing material as close to the bees as it is possible to be placed. I add one remark, that I think dried bog earth will, on trial, be found to be one of the best of packing materials, as it will absorb 3 or 4 times its weight of water, and is at the same time one of the best non-conductors of heat and cold.



Read before the Ventura, Cal., Convention.

Remedy for Foul Brood.

JOHN G. COREY.

This scourge occupies the same relation to the honey bee that the plague or cholera does to the human species, and has been fought against with variable success by the most eminent apiarists of both the Old and New Worlds.

This climate offers rare opportunities to the bee-keeper to rid his apiary of this disease, the atmosphere being dry and the temperature equable during the months most suitable for treatment, May, June and July, as I have found from experience during the past year.

This is not a disease of the bees but of the sealed brood, and the symptoms are dwindling of the colony caused by the brood or a portion of it not hatching; the capping of the brood becomes sunken instead of convex, and later on, in a more advanced stage of the disease, small holes the size of a pin will be found in the capping of the diseased cells.

A lengthy description of the different symptoms of the disease in the different stages is not strictly necessary, as the observing bee-keeper can readily detect bad cases by the sickening smell when a comb is taken from a diseased colony, and with a little practice will be able to detect the slightest trace of it so long as it remains in his apiary. It is strictly necessary for him to know that the disease remains with the colony so long as there is a particle of the diseased honey carried out with the bees, and allowed to remain with them in their sacks and not entirely consumed.

The disease was brought into my apiary during the dry season of 1877, by feeding honey sent to me from San Francisco, which came from a district where foul brood prevailed, and from the healthy strong colonies in May and June, built up by moving my bees into the valley when hundreds of acres of mustard was in full bloom; for 30 days my whole apiary was transformed into a pest hospital. My bees had made brood rapidly on the mustard, and my hives were crowded with bees. Hot winds from the desert came on, flowers dried up, and all that bloomed after that time, about the 10th of June, appeared to secrete no honey, and the buckwheat that we sowed on irrigated land made a fair crop of seed, but produced no honey.

I fed my bees from 10 to 15 lbs. of honey, only one-fifth of which was diseased, but by using the same feeders the virus was thoroughly spread into nearly every hive of the 150 colonies fed, and before January 50 of them had died out, and by spring 15 or 20 more were so weak that they were virtually used up. I added 50 new colonies to my apiary of healthy bees, 30 of which were transferred and made new combs and brood rapidly; these and the 15 other healthy colonies were used to strengthen my weak and fowl colonies until warm settled weather came. I lost some time in trying the salicylic acid remedy so much recommended by our German apiarists and also by Mr. C.

F. Muth, of Cincinnati. I found that uncapping the brood and spraying with the acid, carefully prepared by a good chemist, and adding the borax, which Mr. Muth claimed to be an important addition were of no benefit whatever.

The sticky mass of dead brood would adhere to the feet of the bees, and effectually bird-lime them, so that it was impossible for them to carry out the foul matter, and one, two and three different applications of the acid were tried, hoping to disinfect the matter so as to enable the bees to carry it out, and after trying until the bees dwindled to a mere nucleus, I abandoned drugs.

The treatment used by Mr. Quinby, with the additional recommendation of Mr. A. I. Root to confine the bees until all the diseased honey was consumed, appeared to me to be the most reasonable remedy left for me to try. By this time I had searched bee literature thoroughly, and found what to me appeared a rational conclusion, which was that the honey that remained in the hive contained the virus, as I found after removing all diseased brood from the hive and giving healthy empty combs to it, that the brood afterward died and became foul and rotten by being fed with the diseased honey left in the hive. I furthermore decided that there was a type of the disease that our German friends and Mr. Muth had not met with, or they would not have been able to report the success they did with simple disinfectants.

To come to the manner of treatment, no part of which is entirely new, I will give only such as was finally tested and found effective, leaving all my experiments and failures out. In the first place, have ready either new hives or thoroughly cleaned ones for the number you wish to treat, say from 5 to 10 at a time, depending, of course, upon the size of the apiary and the help you have to do the work.

Remove the infected hive to one side and place the new one on the stand; raise the combs one at a time and with a brush or feather brush all the bees into and in front of the new hive, carefully covering up the foul broody combs and carrying them into the house; proceed with others till you have treated the number above mentioned. The operation should be performed after all the bees have come in from the field, say between sunset and dark in the evening, so as to entirely prevent robbery, and not a drop of honey nor piece of comb left around for the bees to rob out the next morning. As soon as all the bees have gone into the new hive, fasten up the entrance and arrange for ventilation upward, if possible, but no particular way of arranging for this is needed, as all bee-keepers know that bees require more air when confined than when at liberty.

The combs taken from the diseased colony is the next job. If they are not well filled with honey, a good bright fire to burn up everything in the frames containing foul brood is the very best remedy; if they are well filled with honey, the brood can be cut out and burned and the honey extracted, but I do not recommend trying to save it, for I treated some of my colonies over and over, and forced them to make three entire

new sets of comb before the disease disappeared, on account of trying to save the honey from a few diseased hives. A single drop, if carried into a healthy colony, will spread the disease if fed to the brood; at other times it might escape for a while, in case it was extracted soon after the diseased drop of honey had been deposited in the combs, and even then, the minute fungus might infect the honey in one cell only, and that honey be used one or two years afterwards to feed brood and spread the disease. The bees confined in the empty hives should be looked after in 24 hours, and if lively and cross they should be confined 12 hours more, and in some cases as long as 48 hours, or until they appear stupid and a portion of them starved to death.

They should then be allowed to fly, giving them a set of frames, and if possible a comb of healthy honey, or sprinkled with warm sugar syrup to revive them so that they will be able to go out for supplies. A set of frames filled with half sheets of comb foundation have been found of great service; saving time, allowing the queen to resume laying sooner and preventing the colony from dwindling. By proceeding from day to day, treating 5 to 10 per day and carefully attending to them, seeing that they build up; carefully destroying all foul honey, propolis and wax so as to prevent healthy colonies from getting at it, a large apiary may be restored to health in a month.

In preparing hives that have been occupied by foul brood colonies for future use, scrape all wax, propolis and other matter entirely off and submerge them in a strong solution of caustic soda or concentrated lye, afterwards drying and sunning them for a day or two. They should remain entirely covered in this solution at least an hour, allowing it to penetrate all cracks and crevices. All old rickety hives and those that are too long or too short, so that your frames do not work well in them, can be soaked in the solution, dried and split up into kindling wood. By following the foregoing directions practically, never losing sight of the main features of the treatment and closely examining through your hives in the fall and then again in the spring, carefully examining every comb and destroying every one that has a trace of the disease about it, you can rest assured that you will again be in possession of healthy colonies and open up and remain strong and healthy as though no disease had ever existed.

I was assisted in treating my apiary by Mr. Rufus Touchton, a young man with keen eyesight and a good memory, and to these added a firm determination to eradicate the disease. No combs were interchanged from hive to hive during the season. A second treatment was made after the honey season, and this spring the few remaining traces were destroyed by fire, and now I can say for the first time in nearly two years, that I have not got a foul comb to show to those who are fortunate enough to have never seen it. Should this hurriedly written report be of service to the members of your society, I shall be amply paid for the time taken from my daily labor to prepare it.

Foreign Notes.

For the American Bee Journal.

The Theory of Dzierzon.

M. Vienney has altogether misunderstood me. I never dreamed of raising the least doubt against parthenogenesis. Not a single word in my note can give room for such an interpretation. Above all, it does not contain the errors, the absurdities even which M. Vienney gratuitously lends me,—such as parthenogenesis deduced from the color of the males. The criticisms of M. Vienney then altogether miss their mark, and as to the form more than shape, that he has given to them, I shall confine myself to regretting it, without otherwise taking notice of it.

M. Vienney does not seem to have a very distinct idea of what essentially constitutes the theory of Dzierzon. If he will just take the trouble to read carefully (in the December report of the Bee-Culturist Society of the District of Geronde), the little work of which my letter to the Academy was but a summary, he will see there the distinction that there is occasion to establish between virginal reproduction and the part attributed by Dzierzon to fecundation. He will see there also that, far from flattering myself that I am the first to point out this fact, I am glad to see that others have made similar observations, which can but give weight to my interpretation of it. It is of little consequence, to speak truly, that the presence of black males in a mongrel hive has been noticed these 16 years, if we do not deduce from that fact the theoretical consequences that it contains.

May I be allowed to make some remarks upon that point. Dzierzon has distinctly said that the sons of an Italian queen impregnated by a male of another breed are all Italian like their mother. There are many observers who prove undeniably that they are not all Italian. To the examples already known M. Matther has just added another. It is certain that the cases which we know of are not the only ones that have been noticed, and we can foresee that the coming year will yet bring many cases to light, so that the pretended exceptions may very easily become the rule.

Why then persist, out of an exaggerated regard for a seductive theory, in not recognizing the fact that the proposition laid down by the celebrated German bee-culturist is incorrect? Without dreaming of raising a doubt against this dogma of modern bee-culture, we are going to seek in a new hypothesis an argument such as that between some facts and theory. Hitherto it has been supposed that egg-laying workers were very rare. To-day it is admitted that they are in every colony; that every hive may perhaps possess some. But has this supposition been proved by facts? Not at all. It arises solely from our dislike to attribute to the queen males which do not at all agree with what theory teaches us. In dealing thus with the subject, no notice is taken that there are cases in which



this singular result is arrived at, that a yellow mother does not lay any males at all; that they are all laid by workers. This is the case, for instance, in a mixed hive in which only black males are seen. What then becomes of Dzierzon's theory? It would have been as well to have frankly denied it at first, as to arrive at last by a roundabout way at the very denial it was sought to avoid. This question, whether workers lay eggs, is well enough set now for us to expect a positive solution in the next season.

I know well that more than one bee-culturist will give more attention than has hitherto been done, to the male population of mongrel hives. To obtain absolutely conclusive results it will be necessary to proceed in the following manner: To collect the male offspring of an Italian mother of pure race, who has been impregnated by a male of the same breed. On the other hand, to collect the sons of a mother born of the preceding one, but impregnated by a black male. If the last, take them altogether, are darker than the first, we shall have proved undeniably the incorrectness of Dzierzon's proposition. The existence or absence of egg-laying workers will then remain to be proved. If the mother be taken away at the proper time, the careful examination of all that passes in the hive, after she is taken away, will allow us to see how far the opinion, that egg-laying workers habitually exist, is rightly founded.

J. PEREZ, *Professeur*
à la Faculté des Sciences de Bordeaux.

From the Michigan Farmer.

Pollen and Wax.

[Translated by Chas. Benton, Dearborn, Mich.]

The bee gathers nectar from various blossoms, and at the same time secures the pollen which it finds on the anthers. When it cannot obtain the nectar, it contents itself with the pollen.

In the months of April and May, the bee gathers pollen all day long, but in June and July only till about 10 o'clock in the morning, probably because after that time the pollen, as well as the flowers, is a little dry and the small particles do not unite as well. In the afternoon it appears to seek only the flowers that stand in the shade. The dampness contained within the blossoms enables the bee to pack the pollen in little balls, which, in the bee-keeper's vocabulary, are called pollen baskets. If one catches a bee which is returning home, and examines the pollen baskets with a microscope he finds nothing but the dust from the anthers, which has as yet undergone no change; it does not alter when taken between the fingers and kneaded; if held over the fire in a spoon it does not melt but burns, and when it is put into water it sinks, which would not be the case if it were wax.

Should we proceed on the supposition that the particles of pollen contain wax and that the bee only removes the outer coating in order to obtain the wax, experiment will show that no amount of rubbing and kneading will produce wax from the particles. Earlier naturalists were of the opinion that

the bee formed wax by mixing honey and pollen, however all experiments of this kind contradict the assertion. Neither can wax be produced, as some think, by mixing pollen with bee-poison. The following paragraph contains in a few words a statement of how wax is produced:

How does the bee produce wax? Pure wax is produced by the worker-bee from sweet juices and not from pollen. After a wax-worker has filled its sac with nectar from the flowers and returned to the hive it remains for some time hanging. In the meantime a chemical process takes place in its body, i. e. a decomposing of the honey and a separation of the materials. After some time it secretes between the rings on the under side of the abdomen a glutinous substance, which remains hanging to the body and forms into thin leaves. The bee loosens these semicircular portions from its body, passes them forward to its mandibles, and fashions them into cells. This is real wax. It is prepared in the body of the bee from honey, and emerges from the peculiar glands on the under side of the abdomen.—*Bienenwatter Bohemia.*

Exporting Honey to Spain.

In an exchange we find the following item concerning the exporting of American honey to Spain:

A caveat was recently filed for protecting all honey stored in Harbinson's frames by means of an ingenious device of glass and pasteboard, which, when finished, presents the appearance of the neatest imaginable cap, weighing about $2\frac{1}{2}$ lbs. each. One dozen of these are packed in a crate, and is a prominent feature in the trade, and is continually increasing. It is mostly sent to France, where it was not introduced until this last winter. We know our readers will be astonished when we tell them that a merchant chartered a sailing vessel to go to Malaga, Spain, for a cargo of raisins, and on her outward bound trip she carried no less than 10,000 lbs. of Mr. Harbinson's honey, protected and packed in this manner, to their branch house in Bordeaux, where it is being satisfactorily disposed of. There is a heavy duty in France on all goods packed in cans, jars or bottles imported into that country, so the trade in honey to that country will be confined to packages. Carpenters were employed, and this honey all made perfectly fast on board the vessel, and notwithstanding they encountered rough weather, it was landed in reasonably good order.

Pyrmont, Germany, May 18, 1879.

Your German book, entitled "Bienen-Kultur," came duly to hand. The contents are highly interesting, and in a great many places quite new to us. What a paradise for bees and their keepers is your country, in comparison to ours! With but little care, but with sound apistic knowledge, you get hundreds of pounds of the best honey, while we with unceasing care and study earn but a few pounds.

A. LOTTMANN.

OUR TERMS OF SUBSCRIPTION.

PAYABLE STRICTLY IN ADVANCE.

Single subscription, one year.....	\$1 50
Two subscriptions, sent at the same time.....	2 50
Three " " " "	3 50
Four " " " "	4 50
Five or more, " " " "	each, 1 00

☞ If not paid strictly in advance, TWO DOLLARS per annum will charged in all cases.

Advertisements will be inserted at the rate of **20 cents** per line of Agate space, for each insertion, cash in advance. One inch measures fourteen lines.
Special Notices 50 cents per line.

A line will contain about eight words, fourteen lines will occupy an inch of space. Advertisements must be received by the 20th, to insure insertion.

Notice to Advertisers.—We intend only to advertise for reliable dealers, who expect to fulfill all their advertised promises. Cases of *real* imposition will be exposed, and such advertisements discontinued. No advertisement received for less than \$1.

Address all communications and remittances to

THOMAS G. NEWMAN & SON,
972 & 974 West Madison St. CHICAGO, ILL.

When changing a post-office address, mention the old address as well as the new one.

We send the JOURNAL until an order for discontinuance is received and all arrearages are paid.

We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways, in case not taken from express office.

In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps**, for anything desired from this office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Remit by post-office money-order, registered letter or bank-draft, payable to Thomas G. Newman & Son, so that if the remittance be lost it can be recovered.


We will send a tested Italian Queen to any one sending us **FIVE** subscribers to the **AMERICAN BEE JOURNAL** with **\$7.50**. The premium Queens will in every case be tested, but not sent till after July 1st.

Seeds or samples of merchandise can be mailed for one cent per ounce. Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

For the convenience of bee-keepers, we have made arrangements to supply, at the lowest market prices, Imported or tested Italian Queens, Full Colonies, Hives, Extractors and anything required about the Apiary. Our Illustrated Catalogue and Price List will be sent free, on application.


We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at \$2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

Our answer to all who ask credit is this: We sell on **small margins**, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to raise our prices to 20 per cent more to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—we know our **Cash** customers. We must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system gives it to the few who abuse it. We must therefore require **Cash with the order**.

 The Iowa State Fair will be held at Des Moines, Sept. 1st to 5th, 1879. Those interested should send to Dr. J. R. Shaffer, Fairfield, Iowa, for a Premium List.

☞ The Seventh Annual Exhibition of the "Inter-State Industrial Exposition of Chicago" will open Sept. 3d and close Oct. 18, 1879. Four hundred thousand persons attended this exhibition, on an average each year, since the Exposition was opened to the public.

THE HIVE 1 USE.—This is a pamphlet of 16 pages, giving a description of the hive used by Mr. G. M. Doolittle; it is re-published from the BEE JOURNAL for March, for the convenience of the many who desire to get the particulars therein given, either for reference or making the hive for their own use. It can be obtained at this office: price 5 cents.

 **Moore's Rural Life**, is a periodical designed to promote the home interests of such city, village and country residents as delight in flowers, fruits, shrubs, landscape and kitchen gardening, and those pleasant adornments and surroundings which render life enjoyable, whether in cottage, villa or mansion. It is published at \$1.50 per year by the Rural Life Publishing Co., 34 Park Row, N. Y. It is beautifully printed, and Mr. D. D. T. Moore, who is well known as one of the best editors of the age, is at the head of the Editorial Corps. It should find its way into every home in the land.

QUINBY'S NEW BEE-KEEPING.—Concerning this new work the *American Agriculturist* remarks as follows :

“Mr. Quinby was collecting materials for this revision when his long and useful career as our leading Apiarist was terminated by his sudden death. It is fortunate that his son-in-law, Mr. L. C. Root, was thoroughly prepared through a long business association and many years of joint experiment and investigation with him, to take up the work, and give not only Mr. Quinby's later views, but the results of his own experience. Being the latest work on the Apiary, it is also the fullest. In no industry have more important improvements been made within the past few years than in bee-culture, and these are embodied in this new edition. While work is adapted to the wants of the amateur bee-keeper, those who would take up bee-keeping for profit will find here the methods of one who has for years devoted himself to it as a business. Though Mr. Root modestly accepts the position of reviser, he is really joint author, the work being almost entirely re-written.”



Cook's Manual of the Apiary.

There are already several masterly works on bees and bee-culture, yet each is lacking in some point. But the volume before us is simply marvelous in its completeness, beautiful in its simplicity, and fascinating in its style. Everything an apiarist needs to know is found fully explained. It is beyond question the fullest, most practical and most satisfactory work on the subject now published.—*Farm and Fireside*.

For the successful cultivation of bees, both for profit and pleasure, there is a book written by A. J. Cook, which is worth its weight in silver. It treats of all the phases of bee culture upon the most modern principles. No bee-raiser can afford to do without it, for with its valuable directions it will enable him or her to almost double their past results.—*Christian Advocate*.

"The Manual of the Apiary," by Prof. Cook, is the standard authority on bee-culture in America. It is the best as well as the most practical of all the recent works on this subject, which is now engaging the attention of the public. The fourth edition is now in press. The work is written from the standpoint of practical knowledge, and the subject is treated in easy progressive lessons, in such a way that a child could master it.—*Western Stock Journal*.

It is a Manual that seems to be indispensable to the student of scientific apiculture, and is from the pen of a passionate lover of the honey bee who has given the whole subject of bee-culture a thorough study, resulting, as shown in the compact volume before us, as the *Country Gentleman* timely says, "in the fullest, most practical and most satisfactory treatise on the subject now before the public."—*Valley Home and Farm*.

In Cook's Manual is to be found everything that relates to the science of bee-culture, prepared in a masterly manner, and made thoroughly comprehensive to the most inexperienced novice in the art of honey-raising. No apiarist should be without a copy of this valuable work, which is authority upon all that pertains to bees, its author occupying the front ranks among the apiarists of the world. The typography of the book is excellent, and its illustrations graphically make plain many interesting points connected with apiculture.—*Rockland, Me., Courier*.

The author, Prof. Cook, is a scientific man, and brings to the subject a vast amount of knowledge, as to the anatomy, physiology and habits of the honey bee, which his knowledge of entomology enables him to do, and which other works on the subject do not contain. Besides Prof. Cook is an enthusiast in the mysteries of bee-keeping, and has had ample experience in the business.—*Florida Sun and Press*.

A club for the BEE JOURNAL may be sent all to one post office or to as many post offices as there are names in the club.

Kind Words for the Journal.

The following unsolicited notices of the BEE JOURNAL by our cotemporaries, are duly appreciated :

The AMERICAN BEE JOURNAL seems to be the "queen bee" among the journals of its class. It is well edited and printed, and a first-class paper in every respect.—*Real Estate Review*.

I have before me five different publications devoted exclusively to the interests of bee-keepers, and I must say I get more sound, practical information from the AMERICAN BEE JOURNAL than from any other. This is the oldest publication devoted to apiculture published in this country. Thos. G. Newman is an educated gentleman ; a fearless and fluent writer, and each number of the JOURNAL is replete with good practical advice, with no fine-drawn theories to puzzle and confuse a novice.—*Clinton, Mich., News*.

The AMERICAN BEE JOURNAL is a flourishing magazine devoted to the specialty of bee-keeping. Its pages are filled with articles and correspondence from all parts of the country, some of them coming from far-away Germany. Its editor, Mr. Newman, who is President of the North American Bee-Keepers' Society, has been appointed by this Association to go to Europe this coming summer, and visit the various bee conventions and honey shows that are to take place in Great Britain and on the continent.—*Utica Daily Herald*.

A cable dispatch says that the king of Siam has been induced, by the American consul, to establish a general system of education among the natives. Some time ago we noticed the shipment of a large consignment of W. F. & John Barnes' foot-power machinery to Dr. McFarland, their agent in Siam. The king, we since learn, has appointed him at the head of this educational movement at a salary of \$5,000. He proposes to introduce the industries, and among other things, he has introduced Barnes' foot-power machinery.—*Exchange*.

In the *Spirit of Arkansas* we see the following complimentary notice :

Dr. W. W. Hipolite, the great bee-culturist of Arkansas, and a very genial, pleasant gentleman, paid us a pleasant visit last week whilst in attendance upon the medical convention. The Doctor is largely engaged in bee-culture at DeVall's Bluff, and is the Vice President of the National Bee-Keepers' Association for the State of Arkansas. He says that our State is better adapted to the culture of bees than any other section of the United States with which he is acquainted. His experience is that the business is a very profitable one, when conducted upon scientific principles.

H. A. Burch & Co., of South Haven, Mich., were again burned out on May 30th.

Local Convention Directory.

1879. *Time and Place of Meeting.*
 Aug. 10.—Lancaster Co., Pa., at Lancaster.
 Sept. 2, 3.—N. E. Wisconsin, at Watertown, Wis.
 17.—Warren Co., Iowa, at Indianola, Iowa.
 Oct. 7.—Central Kentucky, at Lexington, Ky.
 7.—Albany County, N. Y., at Albany, N. Y.
 15.—Central Michigan, at Lansing, Mich.
 21.—National Convention, at Chicago, Ill.
 23, 24.—Southern Kentucky, at Edmuntion, Ky.

1880.
 Feb. 11.—Northeastern, at Utica, N. Y.

In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

Honey Markets.

CHICAGO.

HONEY.—White clover, put up in single-comb boxes, in slow demand. Prices paid for such, 10@13c. When more than 1 comb in a box, 9@10c. Dark, in the comb, slow sale at 8@10c. Extracted Honey, white, 7@9c.; dark, 6@7c.
 BEESWAX.—Prime choice yellow, 23@24c.; darker grades, 15@18c.

NEW YORK.

QUOTATIONS.—Best fancy white comb honey, 11@13c.; extracted, new, 7@8c.; buckwheat comb honey, 8@10c.; beeswax, prime, 25c.

H. K. & F. B. THURBER & Co.

CINCINNATI.

COMB HONEY.—In small boxes, 10@12c. Extracted, 1 lb. jars, in shipping order, per doz., \$2.50; per gross, \$28.00. 2 lb. jars, per doz., \$4.50; per gross, \$50.00.
 C. F. MUTH.

CALIFORNIA.

We quote comb honey nearly all out of the market; selling at 8@9c.; new none in the market as yet. Extracted, 4@6c.

Prospects very gloomy for a large crop this year.
 STEARNS & SMITH, 423 Front St., San Francisco, Cal.

PURE ITALIAN QUEENS, IMPORTED

Under the Personal Supervision of

J. POMETTA, of Gudo,

Canton Ticino, Switzerland.

I shall start for America with a lot of the very best of purely fertilized Italian Queens, in June, and expect to be in Chicago, Ill., with them about July 15, 1879. I solicit orders for them, sent to me in care of the AMERICAN BEE JOURNAL office (by permission), as I shall be a stranger in a strange country. Price, \$5.00 each. A liberal discount on orders of five or more.

I have been supplying Pure Italian Queens to Mr. C. N. Abbott, Editor of the *British Bee Journal*, and to Messrs. Neighbour & Son, of London, ever since 1875. They have obtained several prizes on these Queens at the Bee and Honey Shows of England. Orders solicited.
 J. POMETTA.

1879.—ITALIAN QUEENS.—1879.

As good as the best and as cheap as the cheapest. Purity, safe arrival, and satisfaction guaranteed. Send for Price List. Address,
 REV. J. E. KEARNS, Waterloo, Juniata Co., Pa.

CHEAPEST AND BEST

EXTRACTOR!

Send \$2.50 and receive the above. See June No. of the A. B. Journal. WM. THOMSON,
 1061 Grand River Ave., Detroit, Mich.

Comb Foundation, 45 to 50c. per lb.

B. B. BARNUM,
 380 Preston St., Louisville, Ky.

Bingham Smoker Corner.

Otley, Iowa, June 10, 1879.
 My apiary is increasing, and I am very busy. It seems to me that I could hardly have success in the bee business without the AMERICAN BEE JOURNAL and Bingham's Smoker. Please send one of Bingham's Standard Smokers with rag-burning attachment, immediately.
 W. C. NUTT.

DePere, Wis., June 12, 1879.
 Many thanks for promptness; the smokers have all been received, and give the greatest satisfaction. My own has now been in constant use for three years, lighted every day and burning all day long during the bee season, and though I see new ones around me, I never wish or think of taking one. It has gone out but three times, and then from my own carelessness.
 FRANCES DUNHAM.

Milledgeville, Ill., June 3d, 1879.
 The two dozen smokers duly received, also your beautiful and well made honey knife. It is a model of neatness and durability. I predict that I shall like it. It is, like your smokers, well made, from first class material. That is the way I do; I use good material, and spare no pains in doing accurate work. You have the inside track on smokers; the principle is clear, and I think cannot be dodged by others. Your smokers beat the world for power and quick action.
 F. A. SNELL.

SOMETHING OLD!

OLDEST AND BEST!

The old, reliable, original, direct-draft Smoker.

This Smoker is so perfect that it has never been improved. The more exact the copy the better the Smoker and the plainer the infringement. Beware of all new direct-draft Smokers—Bingham owns all there is of value in them. Every seller and user is liable. Our Smoker has been in use two years longer than any bellows Smoker now made. If you want the best Smoker and no further expense, buy only the Bingham. If you want to encourage invention and not theft, buy only the Bingham.

Standard size, 2-inch.....\$1 50
 Little Wonder, 1½-inch.....1 00
 Extra large, 2½-inch.....1 75

Sent free, per mail, on receipt of price. A discount of 12 per cent. made from retail rates on all smokers sent by express with or without one or more Bingham & Hetherington patent Honey Knives.

Address, **T. F. BINGHAM**, Otsego, Mich.

SPECIAL RATES.

BINGHAM & HETHERINGTON have made arrangements with the American Express Company at Otsego, to carry honey knives over their routes and either one of the other Express routes named below at 18 cents per knife, in single packages. This arrangement, it will be seen, will carry knives to all places where one of the Express Companies mentioned is located: American, Adams, United States, National, Union, Central, New Jersey, Delaware, Lackawanna and Western. Address,
 BINGHAM & HETHERINGTON,
 Otsego, Mich.

FOR CANADA.

Bee-Keepers in Canada can, by ordering

APIARY SUPPLIES,

Queens, etc., from us, save long freights, duties, custom-house charges and annoyances. Our queens and supplies are the best that can be produced. Catalogue sent free. W. G. WALTON, Hamilton, Ont.

FLAT-BOTTOM COMB FOUNDATION.—High side-walls, 4 to 16 square feet to the lb. Circular and samples free.
 J. VAN DEUSEN & SONS, Sole Manufacturers,
 7-8 Sprout Brook, Mont. Co., N. Y.



ITALIAN QUEENS.



That there is a vast difference in the practical, desirable qualities of Italian bees, is a fact well known by all who have bred them on a large scale. We have for many years past kept this point in view, and have perfected a strain of bees that excel as honey-gatherers, at the same time securing the desirable quality of hardness that enables them to safely pass our coldest winters. We shall continue to rear and sell choice queens from this strain of Italian blood, during the season of 1873, at the following reasonable prices. We ship no dollar queens until they are fertile and begin to lay.

Untested queens, each	.....	\$1 00
" " per half dozen	.....	5 75
" " per dozen	.....	11 50
Warranted " each	.....	1 50
" " per dozen	.....	15 00
Tested " each	.....	2 50
" " per dozen	.....	25 00
Selected tested queens, each	.....	3 50
Imported queens, each	.....	4 50
Italian 7 frame nuclei, with dollar queens, each	.....	3 00
Ditto. ditto. per dozen	.....	30 00
Ditto. ditto. with tested queen	.....	4 50
Ditto. ditto. with imported queen	.....	6 50

At above prices we pay express charges on Nuclei to any point reached by the American Express Company, and on 3 or more queens, to any point reached by the American, United States, Adams, or Union Express Companies.

For prices of smokers, knives, comb foundation, honey extractors, wax extractors, prize boxes, etc., see May *American Bee Journal*, or send for our descriptive 40-page Catalogue. Send money by post-office order, bank draft, registered letter or express, and address your orders to

HERBERT A. BURCH & CO.,

1-1f South Haven, Mich.

ITALIAN QUEENS.

I am still breeding pure Italian Bees from Imported and Selected Home-bred Queens.

Single Tested Queen	.....	\$2 00
Warranted Queen	.....	1 50
Not Warranted Queen	.....	1 00
Full Colonies, after October 1st	.....	6 00

Address, **T. G. McGAW & SON,**
7-10 Lock Box 287, Monmouth, Warren Co., Ill.

BARNES' PATENT Foot-Power Machinery



CIRCULAR and
SCROLL SAWS

Hand, Circular Rip Saws for general heavy and light ripping. Lathes, &c. These machines are especially adapted to **Hive Making**. It will pay every bee-keeper to send for our 48 page Illustrated Catalogue.

W. F. & JOHN BARNES,
Rockford, Winnebago Co., Ill.
June 1

CUTS FOR SALE.

Electrotype Cuts of any of the Extractors or Bee Hives, for illustrating circulars, pamphlets, and for advertising, by mail, post-paid, each \$1 00 Queen cuts (three different styles) each. .75c. and 1 00 Italian or black workers, or drones, each. 75

We also furnish electrotypes of any of our cuts used in the *BEE JOURNAL*, or will have engravings made of anything desired.

The Quinby Bellows Smoker



has now been upon the market for six years, and was the first practical BELLOWS SMOKER MADE. A Patent has been granted it over all other smokers that have copied it. Its rights are maintained by Hetherington, Elwood, Doolittle, Alley, Dadant, and unprejudiced bee-keepers everywhere. Protection guaranteed to all selling and using it. Every Smoker guaranteed THE BEST in market or money refunded.

QUINBY'S NEW BEE-KEEPING

will be mailed promptly on receipt of \$1.50. It is commended by all.

Prof. Cook says: "I rejoice in the book, and have only praise for it."

G. M. Doolittle says: "I consider it the most practical work on bees extant, and fully up to the times."

"I had expected a good book, but it far surpasses my expectations."—P. H. Elwood.

"I do not hesitate to pronounce it the best practical book on the subject published."—J. E. Hetherington.

For prices of smokers and other goods, address

7 **L. C. ROOT, Mohawk, Herk. Co., N. Y.**

Save Your Fowls,

and get Circular and Price List of Italian Bees, Pure Bred Fancy Poultry, &c., by sending your address to
7-8 **J. R. LANDES, Albion, Ashland Co., O.**

CLUBBING LIST.

We supply the *AMERICAN BEE JOURNAL* and any of the following periodicals at the prices quoted in the last column of figures. The first column gives the regular price of both.

Gleanings in Bee Culture	.....	\$2 50	\$2 25
Bee-Keepers' Magazine	.....	3 00	2 50
The three Bee papers of U. S.	.....	4 00	3 25
British Bee Journal	.....	4 00	3 50
All four—British and American	.....	6 50	5 00
American Poultry Journal	.....	2 75	2 50
American Agriculturist	.....	3 00	2 50
Moore's Rural New Yorker	.....	4 15	3 25
National Live Stock Journal	.....	3 65	3 15
Prairie Farmer	.....	3 50	3 15
Scientific American	.....	4 90	4 35
Western Rural	.....	3 50	3 15

Every Bee-Keeper should take the



AMERICAN BEE JOURNAL

ESTABLISHED IN 1861,

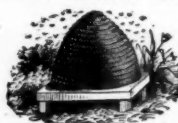
By the eminent bee-master, **SAMUEL WAGNER.**

IT IS

Oldest,

AND

Reliable



THE

Largest,

MOST

Bee-Paper

IN AMERICA!

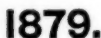
It is the best scientific and practical Journal of *APICULTURE* ever published. The most successful and experienced Bee-keepers in Europe, as well as America, write for it.

TERMS: \$1.50 PER ANNUM.

Send 10 cents for a Sample Copy. Catalogue of Implements for the Apiary sent FREE.

THOMAS G. NEWMAN & SON,
972 and 974 West Madison St., CHICAGO.

Hamilton, Ill.



2-7

A. F. STAUFFER.
Sterling, Whiteside Co., Ill.

Address, **C. C. COFFINBERRY,**
Or **American Bee Journal, Chicago, Ill.**



BEFORE PURCHASING

Supplies for your Apia, send a postal card with your name (and if you will do us the kindness, those of bee-keeping neighbors) for our illustrated circular of Apiarist's Supplies, of every description; sample Sectional Box, and Comb Foundation made on the

Dunham Foundation

machine, which is the latest improvement in that line. We wish to place these samples before

EVERY READER

of this JOURNAL, and hence offer them **FREE**. Just send your name at once. Special attention given to rearing Italian Queens and Bees.

We have secured the general agency of the above machine.

The highest price paid for Beeswax.

1-1f J. C. & H. P. SAYLES, Hartford, Wis.

THE BLESSED BEES, BY JOHN ALLEN.

Published by G. P. PUTNAM'S SONS, 182 Fifth Avenue, New YORK.

Price, post-paid, \$1.00.

This Romance of Bee-keeping has received wide commendation for its literary excellence and its contagious enthusiasm.

I scarcely looked up from the volume before I had scanned all its fascinating pages.—Prof. A. J. Cook.

It possesses such a fluent style that its perusal was a great pleasure. Its contents cover all the ground in bee-keeping, from "Beginning" to "Marketing."—*American Bee Journal*.

The book is beautifully written, and commanded my undivided attention from the beginning to the end. In justice to your inexperienced readers, I think you ought to have called it "The Romance of the Blessed Bees."—Rev. L. L. Langstroth.

It has the fascination of a novel. Its English is so simple, terse, and good, that it has given me real delight.—Mrs. Helen Hunt Jackson ("H. H.")

Mr. Allen's book is a very clear and precise account of the way in which he succeeded in bee-keeping.—*Atlantic Monthly*.

The subject is deprived of all dryness and made as interesting as a story, by an accompanying narrative of personal effort, investigation, and industrious application.—*Harpers' Magazine*.

His method of procedure is told in simple, beautiful language, and the story is more fascinating than many a novelette with greater pretensions.—*Christian Register*.

These chapters cannot fail to aid in diffusing a knowledge of bee-culture, and they will give, moreover, great pleasure to many readers who have not the remotest anticipation of undertaking bee-culture.—*Denver Tribune*.

The book is written in a clear, concise manner, and will hold the reader spell-bound until he has perused the last page.—*Bee-Keepers' Exchange*.

It is not only valuable, but interesting as a story.—*Detroit Post and Tribune*.

Conveys a good deal of information in a pleasant way.—*Cultivator and Country Gentleman*.

So delightfully written that no one can fail to enjoy it.—N. Y. Churchman.

For sale at the Bee Journal Office.

ITALIAN QUEENS AND BEES.

Send for price-list of Queens, full colonies, four-frame nuclei, comb foundation, and apiarian supplies. Satisfaction and safe arrival guaranteed. All Queens reared from Imported Mothers.

H. H. BROWN, Light Street, Col. Co., Pa.

Golden Italians.

We have them in their purity. Circulars and prices free.
J. M. BROOKS & BRO.
4-9 Box 64, Columbus, Ind.

Good Extractors, Cheap!



Send me **TEN DOLLARS**, and the size of your frames, and I'll send you the best Extractor made (a premium machine), and a curved-pointed honey knife with it. I want to sell out.

6-1f

F. W. CHAPMAN, Morrison, Ill.

ITALIAN QUEENS—All bred from Imported Mothers of my own importation. Dollar and Tested Queens from 1st April to 1st November. Full Colonies and Nuclei; Bee-Keepers Supplies of all kinds; Comb Foundation, etc.

6-1f

PAUL L. VIALON, Bayou Goula, La.

FOR IOWA AND MINNESOTA.

Purchase your tickets via THE IOWA ROUTE, composed of the Burlington, Cedar Rapids & Northern, and Minneapolis & St. Louis Railways. The only line running Through Pullman Palace Sleeping Cars between St. Louis, Burlington, and all points on the line of the Burlington, Cedar Rapids & Northern Railway and Minneapolis.

A full line of Excursion Tickets will be sold at principal stations for the noted summer resorts of MINNESOTA, from June 1st to October 15th, at a LARGE REDUCTION from regular rates. Tickets good for 60 days from date of sale, but in no case longer than October 31st, following date of sale. The Minnetonka Lake Park Association have bought and improved 225 acres of land, in which are located fine hotels, which will accommodate 3000 people. Besides the sources of amusement incidental to the lake, the Park Association will hold a Musical Convention July 28th to August 1st; Grand Temperance Congress of Iowa, Minnesota and Wisconsin, August 2d to 5th; Sabbath School Assembly, August 6th to 20th.

Don't fail to go and enjoy the attractions offered by Minnesota.

B. F. MILLS, Asst G. T. Agent.

C. J. IVES, Superintendent.

BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian Queens, COMB FOUNDATION, and implements in bee-culture, write for circular with prices, and sample of comb foundation free.

Our foundation for beauty and purity cannot be excelled.

TESTIMONIALS.

The sample of foundation is the nicest that I have ever seen, take all points together.

G. M. DOOLITTLE, Borodino, N. Y.

Your foundation is O. K.—it looks brightest of them all. Send me 200 lbs. more.

CHAS. F. MUTH, Cincinnati, O.

We have scores of similar praises.

CHAS. DABANT & SON,

Hamilton, Ill.

Price, April, May and June.....each, \$3 00
 " July, August and September..... " 2 00
STANDARD OF PURITY.

All Queens guaranteed to be of good size, vigorous and producing workers large and uniformly marked with three distinct yellow bands, of fine golden color. We shall have a shipment of fine *Tested* Queens, from Italy, in April, selected for our Apiary.

No Circulars. [2-11] A. F. MOON, Rome, Ga.

Eighteen years experience in propagating Queen Bees from imported mothers from the best districts in Italy. Persons purchasing Queens or Colonies from me will get what they bargain for. Send for circular.

WM. W. CARY,
Colerain, Franklin Co., Mass.

And also everything of any practical value in the Apiary: Hives, Sections, &c. Samples of Foundation made upon the above machine FREE. Circulars sent on application.

FRANCES DUNHAM,
Depere, Brown Co., Wis.

Send for Murphy's Price
List of Honey Extractors
for 1879. The

Only American Extractor
that was awarded a
Medal & Diploma
by the regularly appointed
judges at the Centennial
Exposition of 1876. Also,

of all kinds, at low rates.
Address.

R. R. MURPHY,
Garden Plain,
5-7 Whiteside Co., Ill.



JOYFUL News for Boys and Girls!
Young and Old!! **A NEW IN-
VENTION** just patented for them,
for Home use!

Fret and Scroll Sawing, Turning, Boring, Drilling, Grinding, Polishing, Screw Cutting. Price \$5 to \$50.

Send Stamp and address
EPHRAIM BROWN, Lowell, Mass.

We shall be able to furnish Italian Queens after May 15th, at following prices :

Choice Tested Italian Queens	\$2 50
Warranted " "	1 50
Queens bred from Imported Mothers, but not warranted.....	1 00

will be cured with our "Foul Brood Remedy." Cure warranted. Write for particulars.

41f **MILLER & HOLLAND, Kewaskum, Wis.**

DOWAGLAC, MICH.

As a Manufacturer of

I can say my goods have given entire and universal satisfaction. The ruling low prices were made by me, and any one desiring any considerable quantity would do well to consult me before buying elsewhere.

This hive gives entire satisfaction wherever it has been used. It is very simple in construction, and for ease and rapidity in manipulating, out-door wintering, &c., it is the I. X. L.

Descriptive circulars sent free to all.

Address,
E. ARMSTRONG,
5-7 Jerseyville, Ill.

Baker & Co. DESIGNERS
— AND —
PHOTO ENGRAVERS
ON WOOD.
COR. CLARK & MONROE STS. CHICAGO.
DEALERS IN ENGRAVING TOOLS & ENGRAVERS OUTFITS.
ORDERS BY MAIL SOLICITED.



Bingham & Hetherington HONEY KNIVES!



Are used plain, if the combs are held upright, and with the cap-catcher, if laid on a table. They are not like any other honey knife ever made. They are superior in finish and temper, and do much more and better work. No one can afford to be without one. Plain, \$1.00; with movable cap-catcher, \$1.25. Send for Circular for dozen rates for Knives and Bingham Smokers to BINGHAM & HETHERINGTON, Abonia, Allegan Co., Mich.

Bee-Keepers' Supplies!

I shall continue to sell, at reasonable rates, a large variety of Bee-Keepers' Supplies, such as

MUTH'S ALL-METAL HONEY EXTRACTOR,

UNCAPPING KNIVES,

WAX EXTRACTORS,

LANGSTROTH BEE HIVES,

SECTIONAL BOXES,

SQUARE GLASS HONEY JARS,

to hold one and two pounds each, with Corks, Tinfoil, Caps and Labels, $\frac{1}{2}$ lb. Tumblers, Glass Fruit Jars, &c.

COMB FOUNDATION,

BEEWAX, GLOVES, VEILS, STRAW

MATS, ALSIKE CLOVER SEED,

as well as a great assortment of Garden and Field Seeds, &c. For further particulars address,

CHAS. F. MUTH,

2-2f 976 and 978 Central Ave., Cincinnati, Ohio.

Oesterreiche Bienen-Zeitung.

Allgemeines Organ für Bienenzucht, Organ der Gesellschaft der Bienenfreunde in Böhmen. A monthly paper devoted exclusively to bee-keeping. Price, 1f. 20c.—Austrian value. 60c. a year. The cheapest and largest Austrian bee journal; contributors are the best practical writers on bee-keeping in all parts of the world. The only German journal that furnishes reports and items from the American and English bee papers. Addresses to be sent to RUDOLF MAYERHOFER, Publisher of the Oestern Bienen-Zeitung, Praga Neustadt 747.

L'APICULTEUR. is the title of the French Monthly Journal devoted to bee-culture, edited and published by Mons. H. Hamet, Rue Monge 58, Paris. Price 7 francs.

J. OATMAN & SONS' CORNER.

We wish to inform our friends that we are producing

COMB FOUNDATION,

in large quantities and of superior quality. Our facilities are such that we can supply in any quantity desired on short notice, and all favoring us with their orders shall have prompt and satisfactory attention. In at least one point our foundation excels that produced by any manufacturer in the country. Will supply in any quantity wanted, or size desired, at the following prices:

1 to 20 lbs., per lb.	55c.
25 to 45 " "	53c.
50 to 90 " "	52c.
100 to 400 " "	50c.
500 to 900 " "	48c.
1000 lbs. and upwards, special figures.	

If ordered in lots of 5, 10, 15, 25, 50 or 100 lb. boxes, 8x16 $\frac{1}{2}$ or 12x18, ten per cent. may be deducted from the above figures.

Wax to be made into Foundation.

Lots of 100 lbs. and upwards sent us, with 12 $\frac{1}{2}$ c. per pound, freight pre-paid, will be made up and cut to any size, and delivered on board cars here.

Italian Queens.

The superiority of the Queens reared in our apiaries is so well established, we shall not here detail their merits; but to those wishing honey-producing stock, combined with prolificness, we will say they are not beaten. Our arrangements for breeding largely are complete, and we shall take pleasure in booking your order now. Those desiring Queens among the first sent out, will do well to order at once.

Dollar Queens, each.	\$1 00
" " per doz.	11 50
Warranted Queens, as good as ordinary Tested, each.	1 50
Ditto ditto ditto per doz.	15 00

Langstroth and Modest

BEE HIVES,

for the million, at prices to suit the times.

Honey Boxes and Sections,

plain and dovetailed, are large specialties, and if you desire a nice job, at a fair price, we can accommodate you.

Extractors, Smokers, Bee Veils,

and everything needed in the apiary, supplied at the lowest living rates. Order your goods early, remembering that large yields of honey are only obtained by having everything ready for securing it.

J. OATMAN & SONS,

4-2f

Dundee, Kane Co., Ill.

Look Here.

HART'S IMPROVED LANGSTROTH HIGH-PRESSURE BEE HIVE!

After about fifteen years experimenting, simplifying and utilizing, I have succeeded in arranging a hive that I am confident possesses more advantages for less money than any other yet offered, and as it is patented—by letters dated 1868 and 1872—will state some of the advantages: It is double and triple walled, one thickness tarred roofing paper, side opening, fast or loose bottom, adjustable portico and honey-board, can be used single or two-story, long, low brood-chamber, or compounded to suit any sized swarm, either for comb or extracted honey, breeding colonies or for a non-swarmers. Now, after testing my hive thoroughly, I wish to introduce it to the bee keepers of the United States, either by selling territory very cheap, or by responsible agents, giving references, to manufacture and sell on a royalty. By sending 25 cents in stamps you will get a pamphlet of 50 pages, describing it more particularly, and giving much useful matter pertaining to my plan of working, &c.

A. H. HART.

Appleton, Wis., March 12, 1879.

4-tf

1879. QUEENS! QUEENS! 1879.

ITALIAN QUEENS! CYPRIAN QUEENS! HUNGARIAN QUEENS!

During the past eighteen years we have been

HEAD-QUARTERS!

for Italian Queen Bees, and now we have added the Cyprian and Hungarian bees to our stock. To be up with the times, we shall continue to sell

DOLLAR QUEENS!

With our long experience in the Queen-rearing business, we can warrant all our Queens to be purely fertilized, and we also guarantee safe arrival by mail or express. Parties intending to purchase Queens the coming season should read our

Special "Queen Bee" Circular!

giving instructions for introducing Queens safely, and containing other information valuable to beekeepers. All bee-keepers should read our eighteenth annual circular and price-list of apianarian supplies. Both circulars sent free.

PRICES OF QUEENS.

Tested Queens, each.....	\$2 00
" per dozen.....	20 00
Warranted Queens, each.....	1 00
" per dozen.....	11 00

IMPORTED QUEENS.

Cyprian, each.....	\$10 00
Hungarian, each.....	5 00
Italian, each.....	4 50

H. ALLEY,

Wenham, Essex Co., Mass.

LAND IN FLORIDA.

640 ACRES OF TIMBER LAND in Northern Florida, about 50 miles south of the Georgia Line, 25 miles west of Tallahassee, and near the Apalachicola river. Title clear and unincumbered. Will trade the above described land, either a part or the whole, for a farm or an apianary in some North-western State, at a fair valuation for both. For particulars, giving a description of what you wish to offer in exchange, address, **FLORIDA LAND**, care **AMERICAN BEE JOURNAL**, Chic go.

SPERRY & CHANDLER'S NORTH STAR HIVE.

There are now over 1,000 of these Hives in use in different parts of the United States, and wherever tried they are pronounced the best Hives before the public for all general and special purposes. We are now prepared to promptly fill all orders for the North Star, or Improved Langstroth, with our patent Manipulating Side. Samples of surplus honey taken from the North Star, as also our hives in use, may be seen at the American Bee Journal office. Send for illustrated circular—correspondence solicited.

Address **SPERRY & CHANDLER,**

974 W. Madison Street,

Or **AMERICAN BEE JOURNAL**, Chicago, Ill. 8-tf

Italian Queen Bees FOR 1879.

I shall breed Italian Queens for the coming season, from imported mothers of undoubted purity. Safe arrival and purity guaranteed in every shipment. Prices very low. Circulars sent free. Address,

D. P. MYERS,

West Salem, Wayne Co., Ohio.

aplyl

Foundation Machines.

12 inches wide.....	\$40 00
9 inches wide.....	30 00
6 inches wide.....	25 00

Every machine warranted. On receipt of 10 cents, I will send a sample of the foundation made by the machine. Machines for drone or worker combat the same price.

12-tf **JOHN BOURGMEYER**, Fond du Lac, Wis.

Friends, if you are in any way interested in

BEEES OR HONEY

We will with pleasure send you a sample copy of our

Monthly Gleanings in Bee-Culture,

with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Artificial Comb, Section Honey Boxes**, all books and journals, and everything pertaining to Bee Culture. *Nothing patented.* Simply send your address on a postal card, *written plainly*, to **A. I. ROOT**, Medina, O.

THE VOICE

OF MASONRY AND
FAMILY MAGAZINE
FOR 1878.

Will be edited as heretofore; will contain 960 pages of Masonic and Family Literature: will be finely illustrated, and will furnish a greater variety of articles from a greater number of contributors than has appeared in any preceding volume. No proper efforts will be spared in making it, beyond question, the most attractive and valuable volume of a Masonic and literary magazine ever published. Published monthly, at \$3.00 per annum, in advance. Single copy, 30 cents. Address **JOHN W. BROWN**, Publisher, room 12, 182 S. Clark St., Chicago, Ill.

Bees!---1879---Bees!

Full Colonies, Nuclei and Queens Cheap. Supplies furnished. Satisfaction guaranteed. Write for particulars. **S. D. MCLEAN & SON**, Cullcooka, Maury Co., Tenn. 2-7



THIS NEW ELASTIC TRUSS

Has a Pad differing from all others, in cup-shape, with Self-Adjusting Ball in center, adapts itself to all positions of the body, while the **BALL** in the cup **PRESSES BACK the INTESTINES JUST AS A PERSON WOULD WITH THE FINGER.** With light pressure

the Hernia is held securely day and night, and a radical cure certain. It is easy, durable and cheap. Sent by mail. Circulars free.

Eggleston Truss Co., Chicago, Ill.,

8y1



SHUCK'S UNIVERSAL BEE HIVE.

Claims the Attention of every one engaged or interested in Bees.



THE HIVE

Is devised by a practical bee-keeper for PROFITABLE use: double walls, with either dead air space or chaff packing; inside walls are porous, allowing all moisture to escape from the brood chamber, keeping it perfectly dry, sweet and wholesome, even with unsealed stores; both sides are removable; frames hung upon metal supports on the top of the end walls (not in rabbets) and are easily handled; brood chamber large or small, as desired, and may be as complete with one frame as with a dozen; space for 96 pounds surplus honey within six inches of the brood nest. No colony need be lost during the winter months in this hive. No melting combs in this hive during the hot weather. Positively

THE BEST HIVE BEFORE THE PUBLIC.

APIARY RIGHTS, \$5.00. TERRITORIAL RIGHTS FOR SALE ON EASY TERMS.

SHUCK'S BOSS BEE FEEDER,



Patented June 11, 1878.

Removes all the obstacles in the way of feeding, by its simplicity, cheapness, and its adaptability to the purposes required. It is to be placed at the entrance outside the hive, and supplied with sugar syrup, or syrup and flour any time in the day, without annoyance from bees, either to the bee-keeper or the colony being fed; no bees can reach the food except from the inside of the hive. Every bee-keeper appreciates the advantage of feeding to supply short stores for the colony, or to stimulate and encourage breeding, previous to an expected flow of honey.

Prof. A. J. Cook says: "I think very highly of your feeder, and only find fault with the price."

G. M. Doolittle says: "You are just a shouting when you say, 'I trust my Boss Bee Feeder will please you.' It is the best bee-feeder I ever saw, in ease of feeding, simplicity and for general use. When I see a good thing I like to say so. It is worth no less because it is patented."

D. D. Palmer says: "I received your Boss Bee Feeder and would say of it, that I like it better than any I ever saw; in fact, it seems to be all that could be desired. It is all you claim for it, being so convenient to get at, and being so readily filled without disturbing the bees or being to the trouble of taking off the cover."

SAMPLE, BY MAIL, 30 CENTS.

Address,

J. M. SHUCK,

DES MOINES, IOWA.